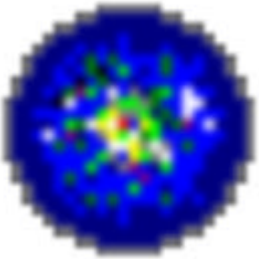
SSEYO® Koan® Pro 2.1

Award Winning Generative Music Authoring System



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Trademarks

Credits:

The SSEYO Koan software was developed by: Peter Cole (SSEYO Koan Music Engine / GUI), John Wilkinson (GUI framework) and Kurt Thywissen (Pattern Editor). Templates and artistic direction by Tim Didymus. Product specification and project management by Tim Cole and Peter Cole. Original concept, web site, documentation and packaging design / implementation by Tim Cole. Special thanks to Kaon Koo and Jon Pettigrew. Thanks also to our customers for their continuous enthusiasm and encouragement.

Second/1 Edition Feb 1998.

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Adaptable Files

examples\55-56.SKD (e.g. c:\koanpro\examples\55-56.SKD)
examples\AMBIENT.SKD
examples\AUTOCH1.SKD
examples\AWESWEEP.SKD
examples\DEMO1.SKD
examples\DEMO1T1.SKD
examples\DEMO1T2.SKD
examples\DEMO1T3.SKD
examples\DEMO1T4.SKD
examples\DEMO1T5.SKD
examples\DEMO1T6.SKD
examples\DEMO1T7.SKD
examples\DEMO2.SKD
examples\DEMO2T1.SKD
examples\DEMO2T2.SKD
examples\DEMO2T3.SKD
examples\DEMO2T4.SKD
examples\DRIFTER1.SKD
examples\DYNAMO4.SKD
examples\FOLLDEM1.SKD
examples\FOLLDEM2.SKD
examples\FOLLOW.SKD
examples\FORRESTA.SKD
examples\GAMELAN1.SKD
examples\GMDRUM.SKD
examples\HOTJAZZ.SKD
examples\LIST.SKD
examples\LISTDEM1.SKD
examples\LISTDEM2.SKD
examples\LISTDEM3.SKD

examples\LISTDEM4.SKD
examples\MICRO.SKD
examples\MIDI.SKD
examples\MUTATE.SKD
examples\MYTHOUS.SKD
examples\PASSENG.SKD
examples\PASSNGR.SKD
examples\PEACEFUL.SKD
examples\PLASTIC1.SKD
examples\PLASTIC2.SKD
examples\QUARTET.SKD
examples\RAVE.SKD
examples\RECYCLE.SKD
examples\RHYTHM.SKD
examples\SILVER1.SKD
examples\SNORKEL.SKD
examples\SNORKEL1.SKD
examples\SONATA1.SKD
MASTER.SKT (e.g. c:\kprodemo\master.skt)
template\FPTEMP1.SKT (e.g. c:\kprodemo\template\FPTEMP1.SKT)
template\HOTJAZZ.SKT
template\LISTEN.SKT
template\LOOPTEMP.SKT
template\MINIMUM.SKT
template\NORMAL.SKT
template\RAVE.SKT
template\R_AFRICN.SKT
template\R_BACKBT.SKT
template\R_DANCE1.SKT
template\R_DANCE2.SKT
template\R_DANCE3.SKT
template\R_FUNK.SKT
template\R_FUSN1.SKT
template\R_FUSN2.SKT
template\R_FUSN3.SKT
template\R_GROOV1.SKT
template\R_GROOV2.SKT
template\R_LATIN1.SKT
template\R_LATIN2.SKT
template\R_REGGAE.SKT
template\R_ROCK1.SKT
template\R_ROCK2.SKT
template\R_ROCK3.SKT
template\R_ROCK4.SKT
template\R_ROCK5.SKT
template\R_ROCK6.SKT
template\R_SAMBA1.SKT
template\R_SAMBA2.SKT
template\XGNORM.SKT

Templates

None

Digital Audio Samples

examples\PASSENG.SBK (e.g. c:\koanpro\examples\PASSENG.SBK)
examples\PLASTIC.SBK
examples\SNORKEL.SBK

Chapter 1 - Welcome to SSEYO Koan Pro 2.1!

Award Winning Generative Music Authoring System

Introducing SSEYO Koan Pro 2.1

- The ultimate music creativity tool for the Internet age
- Create custom generative Koan music for your website
- Control 200+ Koan parameters
- Full SoundFont/XG/GS/GM/WAV support
- Create templates for SSEYO Koan X
- It's a Hyper-instrument!

Custom Generative Music Lab

Market leading SSEYO Koan Pro 2.1 brings you the power to create incredible custom generative music stretching from ambient to totally kicking dance, and we hope you have as much fun using it as we have had developing it! In SSEYO Koan Pro you will find that there are many ways to "skin a cat", as the saying goes, and if you have a desire to innovate, experiment and explore you will find many, many incredible things you can do - you, too, can become a Koan master…

Brian Eno (U2/Bowie producer) created his Koan pieces for "Generative Music 1" with Koan Pro 1.2, and now there is even more power in the product. Koan Pro 2.1 is an immense & incredible product - it's a real musical lab & hyper-instrument that will engross/entertain you for ages!!

Balance & Power

SSEYO Koan Pro 2.1 is about the balance & control of the sound palette, music rules & patterns. It is the powertool for you, the pioneering musician or hobbyist wanting to create your own custom Koan pieces, or for you the website/multimedia developer wishing to create custom intermorphic music experiences for the Interactive Koan Music Engine (IKMC). The Koan music you can make could range from pumping dance to chillout ambient - it's up to you and your imagination. Through manipulation of on-screen controls you can create you own SSEYO Koan pieces, some completely free-wheeling, others based around subtly changing 'seed-phrases'. You can use these generative pieces for low-bandwidth Internet MIDI music or record them to audio or MIDI files for later use in any number of music or multimedia projects. To have the hottest sound palette for your pieces you can use SoundFonts (if your soundcard is SoundFont compatible), and if you ever want to expand the music palette available to you all you need to do is to is get some more… Alternatively, we have built in deep and extensive support for XG/GS and AWE controllers and even provided MIDI Books, meaning you can always squeeze the maximum out of the sounds you have already got….

32-bit versions of SSEYO Koan Pro also now incorporate full DirectSound 5 support, for advanced WAV file instrument playback using SSEYO's incredible new WAV Map technology, which supports both instruments based on small Wave file fragments, and Wave file-based breakbeats !

What are you going to be using it for?

- Making your very own templates for SSEYO Koan X
- Making customised Koan music for your website, or that you can play in SSEYO Koan Web.
- Creating Koan files with the smallest size
- Importing MIDI phrases to be used in your pieces
- Making your own hyper-instrument
- Sequencing your patterns
- Being on the very cutting edge of music creativity

Make the coolest music for the Internet!

SSEYO's Koan system is on the Internet because it is a revolution in music publishing. Koan music is rapidly being adopted as a new interactive music standard for the Internet as Koan pieces, which can be as small as 1KB (typically 5Kb to 20Kb), provide a high-quality, low-bandwidth interactive music content solution. SSEYO Koan Pro will let you create these special Koan files for the WWW and to optimise them for use on your website.

New Features in SSEYO Koan Pro 2.1

- Advanced support for **WAV-based instruments using DirectSound**, which supports both instruments based on small Wave file fragments, and Wave file-based breakbeats ! (NEW for Koan Pro V2.1!). For more info, please refer to the Patch parameter.
- A new **Edit Instrument control** (NEW for Koan Pro V2.1!)
- More than **60 new parameters** have been added since version 1.2, meaning there are now over 200!
- SSEYO Koan Pro 2 introduces the **Listening Voice** voice type. The purpose of this, is to allow you to use SSEYO Koan Pro as a **hyper-instrument** or to treat external MIDI feeds with live sound or musical effects, chords etc. - SSEYO Koan Pro 2 is the perfect addition to a sequencer!!
- There is **full cross- compatibility with SSEYO Koan X** ; SKD and SKT files are fully inter-changeable!
- The **Record Dialog** now lets you optionally record WAV files in addition to MIDI files !
- The **Pattern Editor** has been totally revised, and we have introduced a number of sophisticated pattern enhancements, including:

  Pattern sequencing

  Forced frequency patterns (for recycled SoundFont breakbeats)

  Scale root patterns
- **Following Voices** can now follow other following voices !
- **Auto Chording** - Now **any** voice type can now play chords, including block chords, generative arpeggios, etc. !
- **Randomization and Mutation** - You can easily create entire random pieces, voices and / or rules ! Individual parameters, parameter groups and entire voices can also be mutated and randomized. Mutation is a great addition for easy creation of variants in the Pattern Editor.
- **Full Yamaha XG and Extended SCC1 Support**, which even lets you use the full range of **XG patches!**.

- **User Microcontrollers** - SSEYO Koan Pro 2 now gives you the facility to use custom MIDI commands and User controllers, for expandable filter sweep and other effects, including customizable MIDI books for expandable soundcard feature support. Additionally, both the **Piece** and each **Voice** may have specific MIDI initialization commands associated with them. See how to use user configurable **MIDI Books**.
- **SoundFont Loading can now be defined at the Voice level !**
- Any "**off**" values are now shaded-out to grey, to make "on" values more noticeable.
- In order to reduce file download sizes, **SSEYO Koan Web Platinum** is no longer part of the Internet-based SSEYO Koan Pro product - instead, why not download the free SSEYO Koan Web Silver from our web site!
- More templates, **top quality example files** and **hot tips!**
- Many, many miscellaneous changes, fixes and features.

SSEYO's WAV Map technology and Direct Sound 5 support

SSEYO's incredible new "WAV Map" technology (introduced in Koan Pro V2.1) means that you can now use SSEYO Koan Pro to create Koan pieces that incorporate instruments based around small or large WAV files. For example, one small WAV recording of e.g. a guitar sound, can be used to generate an entire generative guitar!

The SKME automatically scales the frequency of the sample! If you write a piece to use only WAV-based instruments, then that piece will sound the same when played back on any PC with the appropriate SSEYO Koan Music engine and DirectSound 5 support, irrespective of soundcard (but otherwise meeting the recommended spec!)! This means that fast-downloading generative music publishing, with consistent playback on *any* PC soundcard, is now possible using the freely downloadable IKMC Silver pack!

The benefits of mixing-in WAV-based instruments alongside MIDI instruments include the circumventing of any MIDI Line limits, and the side-stepping of any SoundFont sample memory limits (your WAV-based instruments are basically now limited by the physical memory capacity and raw performance of your PC). You can mix and match MIDI, WAV and SoundFont based sounds together in the same Koan piece - refer to Setup Options for further details.

We support the use of "recycled" breakbeats - played back from small WAV file fragments. Use Steingberg's "Recycle" or Square Circle's "WaveSurgeon" products (or similar) to create these WAV files from larger recordings and then use SSEYO Koan Pro to create the generative breakbeat patterns that will play-back consistently on any soundcard!

You can use our WAV-based instrument support with both our Auto-Chording and Koan ADSR features : Koan ADSR (Attack, Decay, Sustain, Release) even works for auto-chording WAV-based instruments (something that could never be achieved with MIDI-based instruments because of the way MIDI works) !

You can now use SSEYO Koan Pro to record your playback sessions direct to WAV file, *even* when playing using WAV-based instruments (when using the appropriate DirectSound 5 drivers) !

To get hold of DirectX 5, you should go to **http://www.microsoft.com/directx** - and follow the "download" links !

Note WAV files using DirectSound 5 can only be affected by the pitch, patch, pan, volume, velocity and Koan ADSR parameters.

So, how do I create this amazing music?

Creating a SSEYO Koan piece is straightforward and involves editing and reviewing a number of on-screen parameters. All of them are real-time changeable, meaning your input will take effect as soon as the SSEYO Koan Music Engine (SKME) can accommodate it (and exactly how

far it composes ahead is set by you). You can fix some of these parameters for the duration of the piece and others, using 'envelopes', can provide varying settings throughout the length of your piece - vital to the freshness and subtlety of the music.

Use 200+ parameters to shape your music:

- Up to 256 separate voices (soundcard dependent)
- Rhythm templates and demo pieces provided
- Separate windows for Power, Voice X, Rules and Piece level parameter views
- 6 different voicetypes: Ambient, Rhythmic, FixedPattern, Follows, RepeatBar or Listening. Use Follows voices to 'follow' another, allowing easy counterpoint; use RepeatBar voices to repeat material from earlier bars; use Ambient voices to create notes with durations in milliseconds, seconds or fractions of a beat; use Listening voices to create your own hyper-instruments.
- All voice types may be automatically chorded or arpeggiated
- 4 music rule types: Scale, Harmony, Next Note and Rhythm
- Envelopes to control Volumes, Pans, Velocities, and Tempo
- Controllers for Reverb/ Chorus/ Portamento/Sostenuto/Expression/ Damper/ Softness and many other effects
- Support for GS/GM patches
- Creative Labs AWE32/AWE64/SB32/SB64: Define in your piece and auto-load multiple Creative Labs AWE32/AWE64/SB32/SB64 SoundFont™ compatible banks from any directory location (could be a CD ROM on your D: drive for instance). Controllers for all 25 EMU8000 LFOs, Oscillators and Envelopes on the AWE32/AWE64/SB32/SB64.
- Yamaha XG/Roland SCC1: Controllers for Attack/Decay/Release and many other controllers
- Gravis Ultrasound/ Ultrasound MAX: Define in your piece and auto-load Gravis Technology patch banks from any single directory location (could be a CD ROM on your D: drive for instance).
- Import MIDI files & record your SSEYO Koan piece output to a type 0 MIDI file
- Record your SSEYO Koan piece direct to WAV file
- Random patch changing as a voice is playing
- Mutation of phrases
- Micro-level controls for real time, subtle random changing of a voice's volume, pitch, start time and modulation, and user-configurable MIDI commands
- Support for WAV files, stored externally or even used from a CD ROM
- Lists of values for every parameter
- Create encrypted .SKP demo pieces that will stop playing after a pre-determined time (allowing you to create and send out encrypted demos of your work - to be played back with the freely available Koan Web, Koan Plug-in or Koan Active X control), add pieces notes for others to see when they load your pieces
- Create protected Template and Style files for Koan X
- Extensive mouse and keyboard support
- Comprehensive online help system

Introduction to Koan music and SSEYO by Tim Cole, Co-founder of SSEYO

"The idea for Koan music was originally conceived back in '86, and has been our life's work ever since. We wanted to create a computer music system which could affect you on an emotional level, by enhancing or filtering your perceptions, and provide ever-changing, eventually massively interactive, music (we call this intermorphic music - controlled generative music). A key premise was that much of the musical 'processing' would be carried out by the listener, who would bring to it their own perceptions, situation and 'wetware', so internalizing and personalizing the experience.

After considering how it might be possible to achieve the impossible, a small core of key people (the founding partners - including Pete Cole, the SKME's architect and Jon Pettigrew, commercial director) came together and SSEYO was born in 1990, when development of the SSEYO Koan Music Engine (SKME) commenced in earnest. It has been through a great number of iterations since then, and, with great contributions from John Wilkinson, the first commercially available Koan product, Koan Plus V1.0, was launched in November 1994. Through continual development of the Koan technology, KoanMusic can now range in style from chillout ambient to beat driven, floor-shaking dance.

Koan music can be thought of as being comparable to a ball bearing travelling down a guide or chute. Each time the ball bearing makes the journey it will travel a different path, but the available paths are constrained by the chute. In a similar way Koan music is governed by an envelope of possibilities, these being set by Koan artists with SSEYO Koan Pro. Each time a Koan piece plays it will have certain boundaries set by the artist, outside which the music will not go. All this means that the music can be different each time.

After much deliberation in early 1994 the term 'Koan' was finally chosen for the music. Koan is a Zen word meaning a mystery or puzzle with no logical solution. We felt that it was a good choice as the music is a 'now' phenomenon (much of Zen philosophy is about the present, as opposed to the future or past). In addition, there is a subtle intangibility to it through the use of random, changing events. As it is created in real-time there is no real 'solution' to the music generated. We sometimes refer to Koan music as Zentertainment. Let it be said, though, that Zentertainment can just as easily be totally happening generative dance as a more relaxing ethereal experience!!

In early 1995 we approached Brian Eno to see if he would like to experiment with our system and use it to create some of his own Koan pieces. To our delight he appreciated the music and the possibilities it afforded so he started work on a number of Koan pieces with SSEYO Koan Pro, the Koan authoring system. In April 1996 SSEYO published 12 of his Koan pieces in a pioneering release titled "Generative Music 1".

Because Koan music is generated by computer there are tremendous opportunities for other programs to affect it in real time (using our API), to change the musical 'envelope' of possibilities as it plays. This opens up real possibilities for music that is interactive and where the listener is truly empowered to consider choices that affect their musical experience, either directly or indirectly where the sound designer has created the "environment". It may take some time for the wider audience to understand and embrace the potential Koan technology can deliver, but I feel there is now a new opportunity for pioneering artists and multimedia developers to use music in new ways. The WWW will provide the main platform for a new, real-time musical experience."

SSEYO Koan Music Engine (SKME)

The SSEYO Koan Music Engine (or SKME, pronounced `SCHEME´ or `SKEEM´) is the real-time music generation powerhouse under the hood of all SSEYO Koan products. Whenever a Koan piece is played, the SKME interprets the parameter settings contained within the Koan 'piece' to compose in real-time the ensuing Koan music. The Koan music 'occurs' as the SKME sends out MIDI information to your soundcard or sound module which then produces the sounds.

The SKME can give performances that are different each time, based on artist's settings of over 200 musical variables. At the core of Koan music lies the **control of the sound palette**, the **music rules**, any **'seed' patterns** and the **interelationships** between the various components in the Koan piece. Because the SKME's musical output can be different every time, it provides a higher level of originality and interest than do simple MIDI files, whose output is always the same.

... and "Roll the Dice"

The most commonly-used method to create `generated´ or auto-composition music was developed by Mozart. He created a system of automatic composition which used a fairly large set of generally short musical phrases of a fixed length. He would roll dice to determine in which order he should string them together. When tied in to sound palette manipulation and all the other power of the SKME, this is actually really useful for dance material! If only he was still around

Zentertainment. What is it?

The music you hear with SSEYO Koan products is ideally matched to the new forms of software - or `Zen Ware´,- now appearing on the market. We often like to use the term Zentertainment™ to allude to the changing nature of the material created with SSEYO Koan products. Because the music is always different it requires an intuitive response from you, helping you to develop instant appreciation.

API

We have an Application Programming Interface (API) available for the SKME for developers who wish to include it in their own applications, be they software games, multimedia titles, telephone systems, VRML websites, WWW browsers or whatever. Please contact SSEYO for further information.

SSEYO Koan Pro Requirements

Minimum:

- P90 PC (or greater)
- 8Mb RAM (minimum)
- DOS 5.0 or higher
- Windows 3.1 or Windows 95 / NT4
- Mouse
- 3.5" 1.44Mb floppy drive / CD ROM / Modem for installation
- 3Mb free hard disk space
- Wavetable PC soundcard/ MIDI interface and external MIDI synthesizer, or internal MIDI software synthesizer.

Recommended:

- Pentium 120 PC (or greater)
- 16Mb RAM (minimum)
- DOS 5.0 or higher
- Windows 3.1, Windows 95 / NT 4
- Mouse
- 3.5" 1.44Mb floppy drive / CD ROM / Modem for installation
- 5Mb free hard disk space + disk space for recording
- Writeable CD ROM drive for cutting your own CDs
- PC soundcard/ MIDI interface with MIDI Mapper support and with a high quality sound synthesizer - Wavetable or LA (Creative Labs SoundFont/EMU8000 or Yamaha XG compatible preferred)

- DirectSound 5 - for advanced WAV file based instrument playback (requires 32-bit software running on Windows 95, Windows NT 4 or later).

There are no special display requirements. In general you may use any sound card or MIDI interface and external synth that can connect to the Windows MIDI Mapper (refer to your Windows manual for details on the MIDI Mapper) - even a SoundBlaster 16. This noted, SSEYO Koan Pro will sound the best if you are using a high end sound card or external synth/sampler; this is because the quality of the music produced is generally only limited by the sound quality of your sound card/ synthesizer.

Note Windows 3.1: We recommend you use the MIDI Mapper, but the SKME will pick up any other Windows MIDI driver if the MIDI Mapper is not installed.

Note SSEYO Koan Pro supports the General MIDI standard, and all instructions assume your sound card or synth does, too.

Note: With the minimum spec system you may find that busy pieces can sound jumpy on occasion)

Installing SSEYO Koan Pro

Note Before installing the software we recommend you take a backup copy of the SSEYO Koan Pro disks, in case you lose or damage the originals.

1 Either : Insert the SSEYO Koan Pro CD-ROM (if available) into your CD drive
Or : Insert the SSEYO Koan Pro disk 1 into your floppy disk drive
Or : For an Internet purchase, simply run the downloaded self-extracting .EXE file and proceed to step 4.

2 Select Run from the File Menu of the Program Manager

3 Run the SETUP16.EXE or SETUP32.EXE program (whichever is appropriate for your preferred installation i.e. 16 bit software or 32 bit software):

4 Choose your installation directory (we recommend you use the default KOANPRO) and press Continue.

5 If installing from floppy disk, you will need to insert the remaining disks at some point in the process; you will be advised when this is necessary

6 The installation will finish and a program group will be created.

7 The first time you run SSEYO Koan Pro you might be asked whether your soundcard supports continuous volume controllers (OPL2/OPL3 based cards do not). Make your selection (which can be later changed via Options Setup).

Note Windows 3.1: If you have not already set up the Windows MIDI Mapper for your sound card, follow the instructions given in the manual that came with it or refer to the MIDI Mapper documentation.

De-Installing SSEYO Koan Pro

Windows 95/NT 4

1. From the Task Bar select Start, Settings, Control Panel and select Add/Remove Programs.
2. Select SSEYO Koan Pro and press the Add/Remove button.

Windows 3.1

1. Find the SSEYO Koan Pro Program group and run the Uninstall program from the Uninstall icon.

Setting up SSEYO Koan Pro

You may not need to change any of the other settings shown below, but you should be aware they are available - **Conductor Timer, Composer, Greedy, Multithread, MIDI Output Device, Koan ADSR, EMU 8200, MIDI Input Device, Fixed Volume Input Line, Koan File Supplementary Search Path, Define Web Browser, Setup (Direct Sound 5).**

Conductor Timer

Roughly speaking, the Conductor timer determines what how demanding the SKME (SSEYO Koan Music Engine) is for your PC system resources. The bigger the value of Resolution and Cycle, the smoother the truly Ambient Koan piece might sound on a low spec machine as there is less precision required in the composition. However, it is generally best to use smaller values, which are required for the more rhythmic Koan pieces. The default setting is High Priority.

Low Priority

Means the SKME is less likely to take system resources; so some pieces will sound smoother as there is less rigorous control of timings. However, this can have a detrimental effect on highly rhythmic pieces.

High Priority

If on **High Priority** at high **Resolution** (i.e. low actual millisecond (ms) value) the SKME will take as much system resources as it needs - highly rhythmic pieces may require this. This can cause other applications to run more slowly.

Resolution

In conjunction with the **Cycle** parameter below, determines how accurately the SKME conducts its pieces/sends out its MIDI information. **Resolution** is the tolerance on the Cycle value. This means the SKME will send out MIDI information every **Cycle** +/- the **Resolution**. The default setting is 10ms.

Cycle

This is the period in milliseconds between timer events, i.e. how often the SKME composes/sends out the MIDI information. Small values for **Cycle** (10 ms or less) mean the pieces will be very accurate time wise (important for rhythmic pieces), however this can sometimes be at the expense of some smoothness, especially on slower machines. Very small values of **Cycle** and **Resolution** can cause your PC to slow down its processing of other applications. The default setting is 10ms.

Composer

The Composer sets the time for which the SKME looks ahead, and the elapsed period over which it will carry harmony and other relationships.

Reaction

The amount of time in milliseconds (ms) the Composer has over which to compose. The larger the value the more the SKME can compose ahead, which is very useful for slower machines, and if you want to do a lot of processor-intensive work, i.e. displaying a screenshow. If you choose a small value for Reaction Time and totally remove the focus away from the program, i.e. hold down the mouse, the output can stop. It will resume when the focus passes back to SSEYO Koan Pro.

Normally set to 5,000 ms (i.e. 5 seconds).

History Time

The period over which harmony relationships will hold good for long notes. Normally set to 20,000 ms (i.e. 20 seconds). For instance, if a note holds for say 10 seconds you would normally want this note to harmonize with any new notes played. Giving this parameter a small value will mean any new notes played may not harmonize with existing long notes. The only time you may wish to vary the default value is if you wish to experiment with these type of effects (bear in mind when sending pieces to other people, that most of them will not adjust this setting).

Greedy

This checkbox determines how much of your PC's processing power the SKME will use when composing music. The default setting for Koan Pro is to have Greedy mode checked, which should suit most situations. In this case the SKME's is given full access to your computer's power for it's composition. You might wish to de-select "Greedy" mode, if you are running other applications at the same time as Koan Pro (e.g. for graphics intensive applications). Also see Conductor Timer.

Multi-thread

The 32 bit version of Koan Pro supports a multi-threaded composer, which can be enabled through the Setup Dialog. This option enables the SKME to keep on composing, even when the graphical user interface is fully engaged by the user. If not checked and the user interface is engaged while waiting for user input, the music will stop being played after the Composer Reaction time (Options Setup) has elapsed. If you enable the multi-threading option, and later experience problems with multi-threaded operation, you may of course disable (and later re-enable) this option.

When using multi-threading you might experience some lack of smoothness in the played music when you have a small amount of physical memory available (e.g. less than 16 Megabytes of base physical memory, and / or many applications loaded). If this is the case, simply disable the multi-threading option. In general, however, we recommend that you leave this box unchecked irrespective of your system.

MIDI Output Device

Select where you want the SKME to send its MIDI output. Normally this will need to be set to the MIDI Mapper if you are using Windows with a soundcard, or alternatively, you can write directly to your soundcards' driver. However, if you wish to drive an external synth then set this up to your MIDI Output device, e.g. SB16 MIDI out.

Koan ADSR

If you have a Wavetable soundcard or one that does support continuous volume controller changes (e.g. AWE32, AWE64, SB32, SCC1, DB50XG, Gravis, NuSound etc.) then you should check the Koan ADSR checkbox. If your MIDI Output device solely uses the OPL3 chipset (e.g. SB16 and SB16 equivalents) or is one that doesn't support continuous volume controller changes (check your soundcard documentation) then you should uncheck the Koan ADSR checkbox. The first time you run Koan Pro, the SKME will attempt to make a sensible choice based upon it's analysis of the capabilities of your music hardware.

EMU 8200

Select this option if you have a soundcard which uses an EMU 8200 chipset (e.g. TDK MusicCard, Creative Labs WaveBlaster II Daughterboard).

EMU 8710 Important note: If you have an EMU 8710 PC card, **do not** check this box or you will not be able to load SoundFonts and your pieces may not sound correct. SSEYO Koan Pro only supports loading of SoundFonts onto this card in its 32 bit form.

The mapping of the EMU 8200 controllers is approximate, such that a Koan piece designed for e.g. the AWE64/AWE32/SB32 will sound almost identical when played back on e.g. a TDK MusicCard. There will however be some audible differences, due to the following two factors :

1. The two soundcard sets have different wavetable patch sets
2. The envelope controllers for the EMU8200 have a non-linear implementation, which means that the resolution for the AWE envelopes is different, especially for the larger envelope stage times, so Koan has to make some approximations in order to map one set of values on to another.

EMU: The existence of an EMU-8200 based soundcard on your machine, is made currently by checking for the existence on your system of the file called "TDKMUSIC.DRV". If this file is not present, but you have a TDK MusicCard or other EMU8200-based system (e.g. Creative Labs WaveBlaster II, or EMU PCMCIA card), then this is not detected automatically. You will have to manually select this option. If you do not do this, then your Koan pieces may not play properly (the AWE64/AWE32/SB32 controllers will have no effect).

EMU: You might experience odd audio effects if you are playing a pieces through Creative Labs Wave Blaster II Daughterboards shipped before January 1996 due to inherent problems with Relative NRPN Envelope controllers. The only way around this is to replace the entire daughterboard (sorry)!

Note 1: Changes to the Composer or Conductor values are implemented by the SKME as soon as it can accommodate them. You do not need to restart the piece for these changes to take effect.

Note 2: The values set here will be used by the SKME to play any Koan piece you might load, so in some circumstances it may be necessary to alter them. You will be able to identify this if the piece sounds jumpy or seems to give you bursts of notes. In this case try to increase the reaction time first and then raise or lower the values for cycle/resolution. However, once set to your satisfaction they should not require frequent adjustment.

MIDI Input Device

Select the device through which you want to input MIDI information. If this is not set correctly the SKME will not detect any incoming MIDI signals with which to harmonize.

Fixed Volume Input Line

The SKME allows you to play along with Koan pieces and use the patches available on your soundcard (or in SoundFont banks if defined). You will need a MIDI music keyboard, MIDI guitar pickup or similar device if you want to use this facility; simply plug your device into the MIDI in port (see MIDI Input Device below) and away you go. Also refer to the Listening Voice parameters to see how to use Koan Pro as a **hyper-instrument**.

The SKME will pick up on any MIDI input on any and every MIDI line, the input being chords or single notes, so you may wonder why you need to define an input line at all. The reason is simple. Koan pieces are all governed by volume envelopes, meaning sometimes a voice can have no, or very low volume. Naturally, if you are going to play along you want to be able to play when you want, so we override the volume envelope for your input on a specific channel.

Your input will be interpreted just as if the SKME had generated it, and everything else the SKME generates will be harmonized against it according to the Scale and Harmony rules currently active. You can record your 'session' to a MIDI file, which captures both yours and Koan's playing.

Line Number

You select the MIDI line into which you want to play along with the SKME (it will listen to all MIDI lines, as above) and it will force this line to playback at maximum volume. As well as listening out for MIDI information on that line, the SKME will harmonize all voices with it automatically (limited to the Reaction Time below). Line 10 will used for the MIDI drum kits The default MIDI line is 16, as few pieces will generally use this number of MIDI lines.

Note If you are not using this feature set both the Line Number and Set Instrument values to none, otherwise this patch will override any you have set in the piece, and at full volume too!

Set Instrument

Tells the SKME to load for you the Instrument that you specify for the "Line" that you have specified, so that whenever you play a note on the given line using your MIDI controller, that instrument will be played automatically for you.

Note The Fixed Volume Input Line parameter is really only designed for simple interaction with "Melodic" instruments. If you wish to control SSEYO Koan Pro using a MIDI drum kit, then you will probably need to use Listening Voices instead to build-up a generative Drum Kit hyper-instrument.

Troubleshooting -

- If you require more advanced effects, such as Playing a SoundFont in response to your MIDI controller, or automatically applying a Filter Sweep to your MIDI controller, or responding in detail to a MIDI drum controller, then you will want to start using Listening Voices.
- If you hear no sound, then please make sure that: your MIDI controller is properly connected to your soundcard; you are playing your Koan piece and that your soundcard volume levels are all turned up; you have defined the correct "Fixed Volume Input Line" to match the MIDI Line along which your controller is sending information; you have defined the "Set Instrument" parameter.
- If the Koan Voices in your piece take a long time to respond to and harmonize with your MIDI controller, then adjust the Composer Reaction Time (below) to match.

Koan File Supplementary Search Path

Enter the path(s) here where you want SSEYO Koan Pro to look for any supplementary files used by your pieces. These could be for example SoundFonts from a CD ROM drive or in a different directory to that of your pieces, or Gravis patches off a network drive. The format is that of your normal DOS PATH command. Separate your paths with semicolons and leave no spaces between entries. Adding a "\" after your directory is optional and not required.

Example:

D:\SBK;E:\KOAN\PIECES;C:\KOANPRO\TEMPLATE

Define Web Browser (button)

If you have an Internet account with a Internet Service Provider and have a web browser setup on your system (e.g. Internet Explorer or Netscape) then you can automatically dial our website for the latest news, files and links. Press this button to call up the 'Select your browser application dialog', which is like a normal file open dialog. Find your browser and

press OK to have it selected. Once you have done this you can select File, Connect to the SSEYO Web Page from the menu to automatically connect to our website (provided your browser is set up to autodial). This will launch your browser (it should not be loaded already) and set it to connect to our website URL - **http://www.sseyo.com**

Setup (Direct Sound) (button)

If you have got DirectSound 5 or later installed on your machine (you may get this from http://www.microsoft.com/directx - follow the "download" links !), and you are running a 32-bit version of Koan Pro, then you can define how Koan Pro interacts with DirectSound 5 to play WAV files. Press this button to display the "Direct Sound Driver Setup" dialog :

Enable Direct Sound ? (checkbox)

Check this box to enable Direct Sound usage by Koan Pro : clear this checkbox to stop Koan Pro using Direct Sound. Programs like Koan Pro and Koan X can both take advantage of this option, and disable Direct Sound whenever you want to record audio to a WAV file with a higher resolution than is allowed by your Direct Sound Capture device drivers (e.g. CD quality audio recordings- which are often not available when using Direct Sound -depending on your soundcard).

Output Device

Use this combo box to specify the Direct Sound driver through which the SKME should send it's WAV output.

Use Hardware Mixing ? (checkbox)

Check this box to allow the Direct Sound output device to use hardware mixing; this will reduce the processing requirements of your machine. Clear this checkbox to use software mixing instead : this can slow down your machine, and might well degrade the audio output when playing WAV files : however, at time of writing (January 1998), this option **must** be cleared by any AWE64 / AWE32 / SB32 users who wish to play-back **both** SoundFont and WAV instruments **at the same time** - otherwise, some very strange audio effects will be heard ! The reason for this is due to a feature in the way that hardware mixing is implemented in the AWE Direct Sound drivers.

Capture Device

Use this combo box to specify the Direct Sound Capture driver which the SKME should use for making WAV file recordings of it's audio output).

Technical Support and Registration

Note It is SSEYO policy to only provide support for legitimate purchasers of our software and we do not provide support for the FREE versions of our software or for beta versions.

Either a returned registration card or proof of purchase will be required before telephone or fax support can be given for boxed product and we generally only provide email support for products purchased electronically.

SSEYO is committed to helping you use SSEYO products as best we can and how you get Technical support depends on where or how you bought the product (see below).

IN GENERAL

Technical Support via the Internet:

There are 4 main ways to get support for SSEYO products on the Internet:

1. Peer support from questions posted to Newsgroups like comp.music.MIDI, comp.sys.ibm.pc.soundcard.misc, comp.sys.ibm.pc.games.misc, comp.music.misc, rec.music.ambient, alt.music.dance
2. Regularly updated FAQs (**F**requently **A**sked **Q**uestions - and answers) on our website (**http://www.sseyo.com**)
3. The KoanMusic mailing list - if you subscribe to this you will get a regular mailing full of useful tips and comments. Please send a mail to koanmail@sseyo.com with Subscribe in the header to join it.
4. Finally, you can also Email us at support@sseyo.com. However, we do kindly request that you read and follow any suggestions contained in the FAQs (above) before mailing us. When Emailing us, please include your serial number/proof of purchase details (together with all relevant information) - as we cannot afford to support non-purchased products.

Technical Support via CompuServe:

You can get Email support from us in the SSEYO forum on CompuServe. We will post regularly updated FAQs (**F**requently **A**sked **Q**uestions - and answers) to these forums. We do kindly request that you read these before mailing us. You can also get friendly peer support from these forums.

CompuServe: Type "**GO SSEYO**". You will also be able to find announcements and other files in this area.

METHOD OF PURCHASE

Purchase via electronic download (e.g. SSEYO Website)

If you purchase this product electronically then we provide you with **Email support only**. Before you mail us with your query we request that you check out the Common Questions section of this online help, the README.TXT and/or read any support information we provide on our website e.g. Frequently Asked questions (FAQ).

Purchase of another manufacturer's product which includes this software

For support, please **contact the manufacturer whose product included our software**. We also suggest you check out the Common Questions section of this online help and the README.TXT, and (if you have WWW access) we recommend you read any support information we provide on our website e.g. Frequently Asked questions (FAQ).

Purchase of full shrink-wrapped retail boxed version

If you purchased a shrink-wrapped retail boxed version of this product then you are entitled to **30 days support from date of purchase** from whomever you purchased the product. Before you call/fax/mail us with your query we request that you check out the Common Questions section of this online help and the README.TXT. If you have WWW access we request that, also before calling or faxing, you also read any support information we provide on our website e.g. Frequently Asked questions (FAQ).

Technical Support by fax/telephone:

Fax to +44 (0)1628 629829. Please describe your setup and problem in detail and provide us your name, serial number (or proof of purchase for boxed copy) and fax number.

Telephone +44 (0)1628 629828 between 10:00 am and 4:00 pm Greenwich Mean Time (GMT), Monday to Friday excluding holidays.

General tips before you Email, call or fax....

Documentation. Carefully read the User's Guide (if you have a boxed copy) and check the Common Questions section of this online help. Also check the README.TXT file where you can find late breaking information that did not get included in the manual or online help file. If you have WWW access we suggest that you also read any support information we provide on our website e.g. Frequently Asked questions (FAQ).

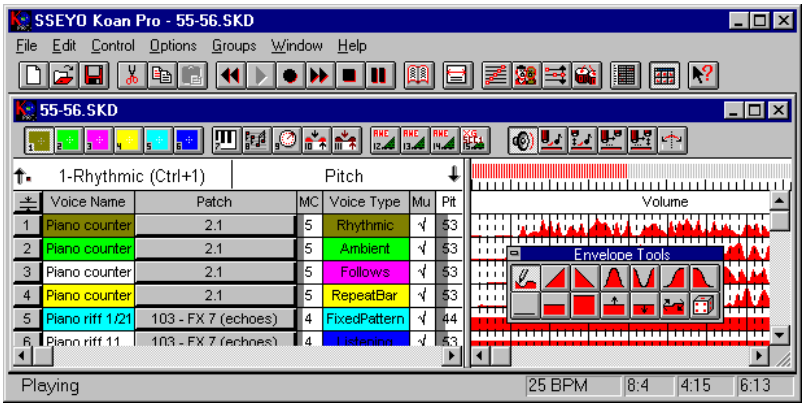
Have the documentation at hand and software running if you call.

Specifics. Try to narrow down your situation to a specific question or problem before you call us and also have available:

- Version number of the SSEYO product (see Help About)
- Type of hardware you are using
- Exact wording of any messages displayed
- Description of how you tried to solve it

Chapter 2 - SSEYO Koan Pro Workplace

SSEYO Koan Pro Power View



Click on any area to get help on it. To get immediate help on any parameter, select the cell with the right mouse and select the Help On This Parameter menu item. Note: there are small differences between most Windows 95/Windows 3.1 SSEYO Koan Pro interface/dialogs.

See also shortcuts, Quick Tips, Voice X View and Piece Parameter Views.

A 'view' is a way of presenting information in SSEYO Koan Pro, namely the values of the parameters used by your piece. The Power View (shown above) is the main way of seeing and editing your SSEYO Koan piece, and it is supplemented with the Voice X View. In SSEYO Koan Pro there are five parameters that are common to most views; these are Voice Name, Patch, MIDI Channel, Voice Type and Mute**.**

There are a number of buttons in the Power View window, each displaying a different set parameters (the parameter views). The first six buttons show the parameters closely related to the six Voice Types, the next five display parameters like controllers and voice level rules, the next four are soundcard specific and finally the six on the left select the envelope views. Just below these buttons you will see some text on the left (next to an up arrow) showing you which view you are in and text on the right (next to a down arrow) showing the full name of the parameter for the currently selected cell. Beneath this are the column headers which display the parameter names, full or abbreviated, dependent on how wide you set the column (See Customization below).

Moving around and shortcuts

Keyboard control - parameter views

Use your keyboard tab and arrow keys to quickly navigate around the screen and use the special Control keys (CTRL + No. or CTRL + SHIFT + No.) to change between parameter views. To call up Voice X view click on the numbered button in the first column of the voice whose parameters you want to exclusively view and edit.

Keyboard control - numerical values

Move to the cell with your arrow keys and press the Enter button to select it. Use the + or - keys to increment/decrement values by 1 or the [ ] keys to increment/ decrement by 10. Using the CTRL+[or CTRL+] keystrokes will increment/decrement values by 100.

Keyboard control - patch/list/combo box cells

Once you have pressed the Enter key to select the cell, you can use the up or down keys to move up or down in the list (e.g. for changing patches).

Keyboard control - Voice Type cell

Press the Enter key to toggle through the Voice Type, or press a key with the first letter, e.g. A for ambient.

Mouse control options

- Position the mouse over a slider in a number cell (a double headed arrow will show) and click with the left hand mouse to select it. Then drag it to the new value.
- Single click on the left hand or right hand side of the cell (not on the text or numerical value) to increment/decrement by 1 (and use the SHIFT key to make this +/-10 or the CTRL+SHIFT key to make it +/-100).
- Click with the left mouse and hold down anywhere in the cell and drag the mouse to the left or the right. This will call up a floating 'speed' control which will increment/decrement the value. The further away you drag the mouse from its original position the faster the value will change.

Parameter value entry/editing by keyboard

Simply type in the Voice Name cell to change a Voice Name; type in a number to change a number cell or type in a new Patch number or name (it will search for a patch based on the letters you type) to change the Patch.

Editing Patches, Patterns and WAV file names by keyboard/mouse

This method of parameter entry is generally only used by power users, and normally you will use the Edit Instrument Control, Pattern Editor or WAV dialog.

Using CRTL+ENTER (or CTRL+SHIFT with the mouse) on the Patch, Pattern or WAV cells will allow you to enter/edit text manually. Or you can simply just start typing the text you want.

Shortcut menus

Click anywhere in the parameter grid with your right mouse to bring up a shortcut menu, for copying, pasting, cutting and lists.

Customization of row/column sizing

Double clicking on a column header (top most cell in a column) will alternate between minimizing the column width to the smallest abbreviation of a parameter and doing a "best fit" on the column. In this case the full parameter name in the column header and parameter values (whichever is the larger width-wise) are both visible.

You can increase the parameter column widths by moving the mouse over the column header and dragging to the left or right the double headed arrow that appears.

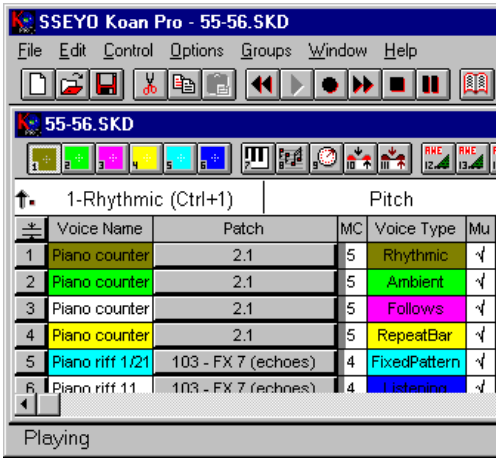
In the User Preference dialog you can set the default height of every row in all the views. You can manually set each row height by moving the mouse over the first column (which contains the Voice X buttons) and dragging up or down the double headed arrow that appears. You can resize every row back to the default height by pressing the at the top of the first column.

SSEYO Koan Pro Voice X View

The Voice X View is where you can edit and review the parameters of just one voice, and each Voice can have its own window. In this view wider columns are available. The parameter names are displayed in full and you can see the parameters and modify their values more easily. The Voice X window duplicates the Parameter and Envelope view icons so that you can easily swap views.

To call up Voice X View from the Power View either select **CTRL+I** or click on the numbered button, e.g. 1, in the first column for the voice whose parameters you want to focus on. To change parameter views once you are in the Voice X view simply use as normal the keyboard shortcuts to move between the parameter views.

Common Parameters



Each piece displays a number of common parameters. The column headers for these parameters are grey to indicate that they are common to most views:

Voice Name

Patch

MIDI Channel

Voice Type

Mute

Envelope View

The envelope buttons on the lower toolbar select which envelope you want to view. You can edit the envelope using the envelope tools on the top envelope toolbar:

 Volume

 Velocity

 Velocity Range

 Velocity Change

 Velocity Change Range

 **Pan (10)**

Top Level Toolbar

Note In the 32 bit version of SSEYO Koan Pro for Windows 95 / NT 4 you can drag your toolbars (envelope toolbar/top toolbar/parameter view toolbar) around the screen and 'dock' them where you want.

The top level toolbar is displayed below the menu bar. The toolbar provides quick mouse access to many tools used in SSEYO Koan Pro. Below this toolbar is another toolbar, the Parameter Views toolbar.

To hide or display the Top Level Toolbar, choose Toolbar from the Windows menu (ALT, W, T).

Click	To
	Create a new piece.
	Open an existing piece.
	Save the current piece. If you have not named the piece SSEYO Koan Pro displays the Save As dialog box.
	Delete an entire voice and its parameter values and moves it to the clipboard.
	Copy an entire voice and its parameter values and moves it to the clipboard.
	Paste the contents of the clipboard into the selected piece.
	Rewind the piece currently playing.
	Play the piece that is in the active window.
	Call up the record dialog so you can record the currently playing piece.
	Fast forward the piece currently playing.
	Stop the currently playing piece.
	Pause the currently playing piece.
	Display the Piece Details.
	Display the Piece level parameters.
	Display the Scale rules available to the piece.
	Display the Harmony rules available to the piece.
	Display the Next Note rules available to the piece.
	Display the Rhythm rules available to the piece.
	Display the Pattern Editor.
	Call up the Envelope Tools Toolbar.
	Context sensitive help.

Status Bar

The status bar is displayed at the bottom of the SSEYO Koan Pro window. To display or hide the status bar, use the Status Bar command in the Window menu.

The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus and the full parameter text description as you move around the voice grid. This area similarly shows messages that describe the actions of toolbar buttons as you depress them, before releasing them. If after viewing the description of the toolbar button command you wish not to execute the command, then release the mouse button while the pointer is off the toolbar button.

The right areas of the status bar indicates various piece statistics:

Indicator	Description
1st box	Tempo of the piece in beats per minute.
2nd box	Time signature of the piece, i.e. 4/4.
3rd box	Time the piece has been playing in minutes:seconds.
4th box	Time the piece has left to play in minutes:seconds.

Envelope Tools

Note In the 32 bit version of SSEYO Koan Pro for Windows 95 / NT4 you can drag your toolbars (envelope toolbar/top toolbar/parameter view toolbar) around the screen and 'dock' them where you want.

Select the envelope tool you wish to use to edit or create your envelopes by clicking on the tool button in the floating toolbar panel with your left mouse button. Once you have selected the right tool, select the area on the grid where you want to apply the tool, as described below.

Tip : When drawing an envelope at the start of a piece, try "swiping" the envelope pen through the volume envelope from right to left. You might find this easier to use than attempting the find the start and highlighting from there.

Applying an envelope to a selected area with the Control key

1. Select the appropriate envelope tool.
2. Press the keyboard Control button and, while holding the key down, click the left button of mouse on one corner of the area.
3. Continuing to depress the Control key and the mouse button, drag it to encompass the area of the grid you wish to select
4. Release the mouse button and the envelope will be applied
5. The area will remain selected until you select another area, meaning you can press another envelope tool to apply to this area.

Applying an envelope to a selected area without the Control key

1. Click the left button of mouse on one corner of the area.
2. Continuing to depress the mouse button, drag it to encompass the area of the grid you wish to select
3. Release the mouse button to select the area.
4. Select the appropriate envelope tool.
5. The envelope will be applied.
6. The area will remain selected until you select another area, meaning you can press another envelope tool to apply to this area.

Selecting an entire envelope

1. Double click on the envelope with the left hand mouse button.

Selecting an entire envelope and applying an envelope tool to the whole envelope

1. Select the tool you want to be applied
2. Press the keyboard Control button and, while holding the key down, double click the left mouse button on the envelope.

Envelope tools

 Freehand

 Normal curve (+)

 Normal curve (-)

 Minimum line

 Maximum line

 Middle line

 Linear ramp up

 Linear ramp down

 Curve ramp up

 Curve ramp down

 Nudge up

 Nudge down

 Random envelope generator

Note The nudge up and nudge down tools work by moving the envelopes up or down by a pixel at a time. This means that if you expand the row height you can have finer control over the amount of nudging.

See also

Apply Current Envelope Mix - Current Envelope
Apply Current Envelope Mix - All Envelopes in Column
User Preferences

User Preferences

The User Preferences dialog is accessible from the menu, under Options Preferences. Here you can define what is displayed on start-up, whether voices and rules flash when a note is played and the row height for your voices, amongst other things.

Display Welcome dialog

Selecting this will mean the Template Dialog and splash screen will display when you first start SSEYO Koan Pro

Open Most Recently Opened

Selecting this will cause the last piece you had open to display on first starting SSEYO Koan Pro

Flash voice when it is played

When checked, a voice's Voice Name will flash the color of its Voice Type when it plays a note. This is useful for when you want to see what is happening in a piece. It is also pleasant to watch. The reason for allowing you to switch this off is that it has a small system resource requirement.

Flash rule when it is used

When checked, any rule will flash when a value/or column in that rule is used to determine a note. For instance, if a voice's scale rule allows 5ths to play a 5th plays, the appropriate bar in the rule will flash to show that this has occurred. The reason for allowing you to switch this off is that it has a small system resource requirement.

Set default row height to ---- units

Use this setting to determine what your row height will be. The default is 18. When you press the Row Height reset tool button all the rows will be set to the height you have set here.

Row Height Reset Tool

 Use the button at the top of the first column (where there are all the buttons to select the Voice X Views) to reset all your Voice row heights to the default value given in the User Preferences dialog.

Terminology

Parameters

Parameters are the various types of controls SSEYO Koan Pro uses to generate its output, and everything that can have a value is a 'parameter'. For instance, Mute can have a value of Tick (not muted) or m (muted); Voicetype can take the value of Rhythmic, Ambient, Follows, RepeatBar, FixedPattern or Listening; MIDI Channel can be 0 or 1 to 16; Pitch can have a value anywhere from 1 to 127; 'Volume' can take an envelope value meaning the value can vary continuously throughout the playing of a piece. All parameters are changeable in real time, subject to the Composer setting in the Options Setup dialog, which determines how far in advance SSEYO Koan composes and therefore when the changes will be heard.

Piece

When the Koan file you are working on is played by the SSEYO Koan Music Engine (SKME) it generates the generative KoanMusic that ensues. 'Piece', 'track', 'song', 'file', 'soundscape' (and also 'template' sometimes) are all terms used interchangeably to describe either the file or the music created by the SKME. When we use 'piece' in the manual and online help, we are generally referring to an .SKD file (or even .SKT file), in which you can see and edit all parameters and envelopes through the SSEYO Koan Pro interface. In other words, the 'piece' is the collection of all parameter values used to create the KoanMusic. When we refer to 'piece level parameters, we are referring to parameters that affect the entire piece. Likewise when we refer to "voice level" parameters we are referring to those that apply to individual voices within a piece.

Each piece contains one or more voices, and each voice plays a patch/ instrument (both have the same meaning in our terminology). The sound and output of each voice is controlled by the parameters, some of which can be given envelope values so that they vary in controllable and pre-determined ways over the duration of the piece. Each voice will generate notes and the notes generated/played are governed by various rules. A Koan piece can have a number of extensions .SKP (encrypted), .SKD (SSEYO Koan Design file) or .SKT (SSEYO Koan Template file).

Voice

A voice in Koan terminology is a single 'player' created in SSEYO Koan Pro and sow occupies one row in the main display; each player is assigned an instrument.

Your sound card/synth provides the only real limitation on how many of voices can play in a piece (you can define 256 in the piece) or how many of these can play at once, and this is determined by the Polyphony specification of your soundcard. The number that can actually play at any given time is also governed by the MIDI Mapper (which allows only 16 simultaneous channels to play for Windows 3.1/ Windows 95/ Windows NT 4). You can 'name' each voice identifying them with any name you want; in the demos the names mostly describe the instrument. This is useful when you want to use different samples on an external synth/sampler.

Note There are a number of different Voice Types available which also affect how your Voices play.

Envelopes

Envelopes are a graphical way of displaying the way a parameter changes over time; they are analogous to a 'bar chart' in that the height of the bar is in direct proportion to the value of the parameter: the higher the bar the greater the value. Edit them using the envelope tools. Some parameters with envelopes are:

Volume, Pan (Stereo position), Velocity, Velocity Range, Velocity Change, Velocity Change Range, Tempo, Scale Rule availability

Piece Marker

When you play a piece you will see a moving red bar on the left and near the top of the Power View. This indicates the percentage time for which a piece has been playing, where the beginning represents 0% and the end 100% of the piece length. Click your mouse on it to immediately forward or rewind to that point. Also use the ALT + 0 to 9 keys to move to a percentage of the way through the piece (e.g. ALT + 2 would be 20%). This is great fun an is useful for scratch mixing a piece when you are creating an audio recording.

Instrument/ Patch

The instrument or 'patch' is generally any of the 128 General MIDI patches and these are identified by their patch number i.e. 098 FX2 as well as a description. However, they could also be a custom SoundFont or WAV file. In addition, any Drum Set can be used in a piece; drumsounds are identified as the patch number preceded by a D, i.e. D60. The drum sound patches/instruments are at the end of the General MIDI patch list. You can assign any number of instruments to a voice by using the list functionality built into Koan.

Encryption

Pieces written in SSEYO Koan Pro can be encrypted so that others can not read them, offering a higher level of protection to those who spend time creating polished works. Encrypted files have the file extension .SKP. These can be played by the Koan Players as well as the non-encrypted files with extension .SKD.

You are perfectly welcome to ship files as .SKD files so that you can let others see what you have done, just remember it means people can more easily copy your techniques and ideas.

To encrypt a file, from the menu choose File Save Play File.

Protected Koan Pieces

Koan pieces and templates can come in a "protected" form. A Koan artist using SSEYO Koan Pro (provided it is a later version than Koan Pro 1.2) can set up a piece or template so that only certain specified parameters out of the 200 or so available have values that are visible or editable (including the original Piece Notes) in either SSEYO Koan Pro or SSEYO Koan X. Artists can use this format to create pieces for others to use or remix, and particularly to create templates for SSEYO Koan X, as in this format other people cannot see how they have done their 'special tricks'. One example would be to provide protected .SKD files (saved as protected .SKT template file and then renamed to .SKD) with their own original Piece Details that can be read, but not edited. When someone remixes this piece in SSEYO Koan X they can add their own remix notes in the Mix Notes field of the Piece Details dialog. These notes are appended to the non-editable Piece notes when the file is saved.

.SKD, .SKT and .SKP Files

Remember, all files are covered by international copyright, as are recordings of your Koan pieces. See also Recording.

.SKP files

SSEYO Koan Pro can create encrypted .SKP (SSEYO Koan Play) files (File Menu, Save Play File option), these files which contain the same information as .SKD files but in a different format, non-loadable by SSEYO Koan X or SSEYO Koan Pro These files can only be played by the SSEYO Koan Players - Koan Web, Koan Plug-in or the Interactive Koan Music Control. We

recommend that any files you put on your website are in this format (unless you are doing interactive work in which case you will probably need to use .SKD or .SKT files).

.SKD files

SSEYO Koan Pro can generate .SKD (SSEYO Koan Design) files, as well as SSEYO Koan X. These Koan files store all the information on each template or voice in the files. SKD files cannot be read by Koan Web or the Koan Plugin, although they can be played by them, but the Interactive Koan Music Control can read them.

.SKT files

SSEYO Koan Pro can generate .SKT (SSEYO Koan Template) files. There are 3 types of template files. One is in same file format as .SKD files, but with a different extension - no parameters are protected. Another is an empty template, called a style template, for use in creating new mixes with SSEYO Koan X. The third format (not possible to save with Koan Pro V1.2 or earlier) is where the templates can be protected so that only certain of the 200 or so parameter values are visible or editable (including the original Piece Notes). Artists use this format to create templates for others to use, particularly for SSEYO Koan X: in this format other people cannot see how they have done their special tricks. SKT files cannot be read by Koan Web or the Koan Plugin, although they can be played by them, but the Interactive Koan Music Control can read the values of any unprotected parameters within them.

Album

An album is a collection of SSEYO Koan pieces or MIDI files, and these can be played only by SSEYO Koan Web. The pieces could be your favorites or a collection you have bought from another artist, already conveniently supplied as an album. When you buy a pre-configured album it comes with its own notes which you can read in the SSEYO Koan Web Viewer module. You can also add your own notes to your own albums, allowing you to jot down things you feel when you listen to its pieces.

The album file has the .SKA extension. Albums can include SSEYO Koan pieces with the .SKD, SKT or .SKP format or MIDI files.

Piece Parameter Views

 This view can be selected from Piece Parameters on the Groups menu or by selecting the icon above, found on the top level toolbar.

These piece level parameters affect the whole piece and so have their own special window. You can toggle between each of the 3 Piece views by pressing the buttons at the top of the window. The parameters for each view are listed in alphabetical order.

View 1

This parameter view displays those parameters you are most likely to use which affect the entire piece:

Drum Set
Harmonization Type
Harmony Rules
Meter
Next Note Rules
Piece Gap Range
Piece Gap
Piece Length Range
Piece Length

Scale Rule(s)
Tempo Change?
Tempo Envelope Range
Tempo Envelope
Tempo Range
Tempo

View 2

This parameter group view displays those more complex or advanced parameters you have at your disposal to affect the entire piece:

Piece Demo Time
Piece Random Scale
Piece Root Bars Range
Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Root Patterns
Piece Roots
Piece Semitone Shift Range
Piece Semitone Shift
Voice

View 3

This parameter group view displays advanced parameters you have at your disposal for loading 'patches' or SoundFonts, should you have the appropriate soundcard (you may still set these even if you do not have the soundcard but you will not hear any effect):

AWE Chorus Variation
AWE Effect Type
AWE Reverb Variation
AWE SoundFont Bank &SBK Name
Gravis Drum Patch Bank
Gravis Melodic Patch Bank
Piece Initialization MIDI Command
Yamaha XG System On

Parameter Views Toolbar and Icons

There are 2 toolbars with SSEYO Koan Pro. The top toolbar contains the main application tools like File Save and also the envelope tools.

The lower toolbar (Parameter Views) contains icons where you can specify the Views you have of the parameters and envelopes. The parameters are put into groups that are most likely to be used, and that have a close relationship to each other. Generally, when setting up a piece you would work from left to right along the parameter views.

Click	To See
	View 1 - most often used parameters and Rhythmic voicetype parameters
	View 2 - Ambient voicetype, Patch Change and WAV parameters
	View 3 - Follow voicetype parameters
	View 4 - RepeatBar voicetype parameters


View 5 - Pattern voicetype and mutation parameters


View 6 - Listening voicetype parameters


View 7 - Auto-chord parameters


View 8 - The rules and other sundry parameters used by a voice


View 9 - Standard controllers to use effects like reverb and chorus


View 10 - Micro controllers to allow subtle continuous changes of note timings, pitch, modulation and volume


View 11 - User-defined Micro controllers to allow subtle continuous changes of myriad MIDI effects


View 12 - The first group of AWE32/AWE64/SB32/SB64 specific controllers


View 13 - The second group of AWE32/AWE64/SB32/SB64 specific controllers


View 14 - The third group of AWE32/AWE64/SB32/SB64 specific controllers


View 15 - XG/SCC1 specific controllers


Volume envelope


Velocity envelope


Velocity Range envelope


Velocity Change envelope


Velocity Change Range envelope


Pan(10) envelope

View 1 - Rhythmic Voice and General Parameters

This parameter group view displays those parameters you are most likely to use when creating a voice of the Rhythmic type:

Phrase Gaps Range
Phrase Gaps
Phrase Length Range
Phrase Length
Pitch Range
Pitch
Volume Step Change
Phrase Note Rest %

View 2 - Ambient/Patch Change /WAV Parameters

This parameter group view displays those parameters you are most likely to use when creating a voice of the Ambient type. Also included are parameters for specifying individual WAV files and for changing the patches a voice uses whilst it plays:

Ambient Duration
Ambient Duration Range
Ambient Gap
Ambient Gap Range
Ambient Units
Patch Change Bars
Patch Change Bars Range
Wave file

The notes played by an Ambient voice will still follow the Scale, Harmony and Next Note rules (but not the Rhythm rule), allowing a very free floating effect in the music. This voice type is unique to SSEYO Koan products as it allows notes to play which are not restricted to traditional music bar boundaries, as the note durations are defined by time. It is also useful for putting in special effects which will only play infrequently. See *Ambient Duration, Ambient Duration Range, Ambient Gap* and *Ambient Gap Range*.

Note: We recommend you use the Patch parameter for playing WAV files (V2.1)

View 3 - Follow Voice Parameters

This parameter group view displays those parameters you are most likely to use when creating a voice of the Follows type:

Follow Delay Range
Follow Delay Unit
Follow Delay
Follow Named Voice
Follow Percent
Follow Shift/Interval Range
Follow Shift/Interval
Follow Strategy

Three types of "following" are supported; Chordal Harmony (where any interval up to that specified can be chosen), Interval within Scale Rule (allowing fixed intervals) and Semitone Shift (allowing fixed tonal following). In addition, you may determine how likely a voice is to follow the lead voice and to apply a delay factor in seconds, milliseconds or 60^{th} of a beat. For instance, you could simulate fugue phrasing by following a lead voice by say 4 beats. Alternatively, you could mimic a long delay by setting the delay time value to say 5 seconds. Again, you could follow a lead voice with say 6 other voices (with Chordal Harmony selected), each with a range of delays, creating fairly natural sounding chords. Perhaps you might like to set up a Following voice to utilize chords. You can even define your piece, such that Follows voices follow another Follows voices (e.g. Voice C follows Voice B, which in turn follows Voice A) ! This creates what is known as a "Network of Following Voices". See Follow Named Voice and Follow Strategy.

View 4 - Repeat Bar Parameters

This parameter group view displays those parameters you are most likely to use when creating a voice of the Repeat Bar type:

Repeat Bar History Range
Repeat Bar History
Repeat Bars %
Repeat For Bars Range
Repeat For Bars
Repeat Specific Voice

View 5 - Pattern and Mutation Parameters

This parameter group view displays those parameters you are most likely to use when creating a voice of the FixedPattern type:

Meter
Mutate No. Bars Range
Mutate No. Bars
Mutation Factor
Mutation of Rhythm
Pattern Bars %
Patterns

View 6 - Listening Voice Parameters

This parameter group view displays those parameters you are most likely to use when creating a voice of the Listening type. Every parameter in this group is new for V2.

Listening Voices are a new Voice type introduced for SSEYO Koan Pro 2. They enable the SSEYO Koan Pro user to construct what is effectively a generative “hyper-instrument”, which combines musical inputs from an external MIDI controller with the power of the SKME to create user triggered events (such as chords etc.). See example below.

They also allow you to take the input from a sequencer and treat it with a large number of live sound or musical effects, e.g. chording, filtering through controllers, adding velocity changes etc. These changes can be saved back to a MIDI file if you like through the MIDI Recording facility.

Listening Voices may be set-up to listen to ranges of MIDI notes on various MIDI lines, and other voices (such as Following Voices) may be set-up to respond to those voices. Listening voices may be used (of course) in conjunction with all the other Koan voice types.

Tip: Once you let go of a MIDI note (e.g. take your finger off the keyboard) then a MIDI off command is sent: therefore, you note will stop playing.

Note A Listening voice will listen to one note at any instant in time; it cannot listen to all notes in a chord at the same time. The response times of the Listening Voice are dependent on the speed of your computer. Even on fastish machines the Listening Voice can sometimes miss notes (e.g. you play a note on the keyboard but it is not picked up) or can have slight delays - this is due to the speed with which Koan can pick up the information. The rule of thumb is the faster your machine, the faster the response!

Note Currently you cannot use Listening Voices to trigger playback of an entire fixed pattern in response to a single MIDI note on event.

Listen Adjust Invalid Notes
Listen To Pitch Minimum
Listen To Pitch of Patch Only ?
Listen To Pitch Patch Override
Listen To Pitch Range
Listen Use Koan Velocities ?

View 7 - Auto Chord Parameters

This parameter group view displays the parameters associated with creating chords and arpeggios for all voice types. Every parameter in this group is new for V2:

Tip Chord Depth is the key parameter. **Any** voice can play chords - even following voices, fixed pattern voices, listening voices etc. !

Chord Delay
Chord Delay Range
Chord Delay Unit
Chord Depth
Chord Depth Percent
Chord Depth Range
Chord Pitch Offset
Chord Shift/Interval
Chord Shift/Interval Range
Chord Strategy
Chord Velocity Factor

Quick usage

To get a chord effect on a voice, simply start the voice playing, and change the Chord Depth parameter to a value other than one. Result : instant chording ! To get different chording effects for any voice, simply experiment with key parameters such as Chord Strategy or Chord Delay. Also try changing the Pitch parameter.

Tip : If chording a drum voice, use some Chord Delay on the voice, or you won't be able to hear the effect. This is because in MIDI, only one instance of a particular drum patch can physically play at any one time.

The actual chord voice delay (between the notes in the chord) is normally calculated based on the Chord Delay and Chord Delay Range. This means it could have a range of values, potentially resulting in a sort of organic feel to the chord. However, if the chord delay unit is specified to be "Quantized 60ths of a beat", then a quite specific effect is obtained. When "Quantized 60ths of a beat" is selected the actual value is quantized to fit within a range of delay values that depends on the "Chord Delay" parameter:

- If Chord Delay = 10, then quantize the delay to one of : 10, 20, 30, 40 ...
- If Chord Delay = 15, then quantize the delay to one of : 15, 30, 45, 60 ...
- If Chord Delay = 20, then quantize the delay to one of : 20, 40, 60 ...

This is to allow (mainly) Koan dance people get a lot of variety on the drum repeats. Great for "Jungle" sounds. Experiment to see how it sounds !

Note that you can also use the Follows Voice Type to construct chording voices. See Follow Named Voice and Follow Strategy.

View 8 - Voice Rules & Other General Parameters

This parameter group view displays the rules used by a voice and other general parameters:

Breakbeat ? V2
Copyright V2
Harmonize?
Harmony Duration
Harmony Rules
MIDI Channel Reallocation
MIDI Channel Sharing
Mute Lock ? V2
Next Note Rules
Notes V2
Recordable? V2
Redistribute in SKD/SKT ? V2
Rhythms Rules
Save to SKP ? V2
Scale Rules
Voice Group V2
Voice Image V2

View 9 - Controllers

This parameter group view displays the standard controllers used to alter the sound of instruments/patches:

Chorus (93)
Brightness (74)
Damper Release
Damper/Hold (64)
Expression (11)
Harmonic Content (71) V2
Initialization MIDI Command V2
Modulation (1)
Portamento (65)
Reverb (91)
Soft (67)
Sostenuto (66)
Koan ADSR Attack Time
Koan ADSR Hold Time
Koan ADSR Decay Time
Koan ADSR Sustain Level
Koan ADSR Release Time

View 10 - Micro Controller parameters

This parameter group view displays the fixed Micro control parameters. These allow you to vary various aspects of the patches sound at a 'micro' level, i.e. very subtle real time changes, related to Note Delays, Pitch, Modulation and Volume.

Micro Note Delay Change
Micro Note Delay Offset
Micro Note Delay Range
Micro Pitch Change

Micro Pitch Range
Micro Pitch Update
Micro Pitch Update Range
Pitch Bend Offset
Pitch Bend Sensitivity
Micro Modulation Pulse
Micro Modulation Pulse Range
Micro Modulation Range
Micro Modulation Update
Micro Modulation Update Range
Micro Volume Change
Micro Volume Range
Micro Volume Update
Micro Volume Update Range

View 11 - User Micro Controller Parameters

This parameter group view displays the group of user-configurable Micro control parameters. These allow you to vary various aspects of the patches sound at a 'micro' level, allowing you to change virtually any MIDI effect in real-time. Every parameter in this group is new for V2.

There are two separate User Micro Controllers in View 11, each with additional modes of operation : User Microcontrollers 1 and 2. Both controllers are independent, and are controlled by parallel separate sets of parameters. They are used to control the MIDI Command defined by the appropriate User Controller X MIDI Command parameter.

Each User Microcontroller can be configured to change against various time bases, either time-based or beat based. For example, you could set-up one Controller to drive a Pan sweep which cycled from left-to-right-to-left following a 20 second cycle; and the second controller might drive a Filter sweep that follows a sawtooth from left-right, left-right once every 3 bars. The effect that this can have on dance and other contemporary music, can be really extraordinary - we really encourage you to experiment with these parameters !

User Controller 1 Beat Cycle Length
User Controller 1 Change
User Controller 1 Change Range
User Controller 1 MIDI Command
User Controller 1 Minimum
User Controller 1 Mode
User Controller 1 Range
User Controller 1 Update
User Controller 1 Update Range
User Controller 2 Beat Cycle Length
User Controller 2 Change
User Controller 2 Change Range
User Controller 2 MIDI Command
User Controller 2 Minimum
User Controller 2 Mode
User Controller 2 Range
User Controller 2 Update
User Controller 2 Update Range

You can define both piece- and voice-specific MIDI initialization strings, of (fairly arbitrary - limited length) MIDI commands. Note - this can be complicated to use, and may require experimentation and careful thought on your part ! The syntax of these commands is defined

in the section on How To Use and Edit MIDI Books; a number of MIDI Books are supplied with your copy of SSEYO Koan Pro, including :

General MIDI Controllers	(MIDIBOOK.TXT)
Roland SCC1	(SCC1MIDI.TXT)
Creative Labs AWE32/AWE64/SB32/SB64	(AWE32MID.TXT)
Yamaha DB50-XG	(DB50MIDI.TXT)
Yamaha DB50-XG Variations (Detail)	(DB50VARI.TXT)
Yamaha DB50-XG Voice Specific	(DB50VOIC.TXT)

Quick overview

User Controller Minimum

The minimum value to use

User Controller Range

The range of legal values above the minimum

User Controller Update

How often to change the value, in milliseconds

User Controller Update Range

The range on the above value.

User Controller Change

The amount to change (following the mode) every “update” time

User Controller Change Range

The range on the above value.

User Controller Beat Cycle Length ...

If set to anything other than 0, then this overrides the Update / Update range parameters, and instead forces the microcontroller value to change within the available value limits, but within the specified number of 60ths of a beat. E.g. to change a sawtooth from Min-Max (0-127) every beat (quarter note/crotchet), then set this value to 60. To change from 0-127 every bar of 4:4, then set this value to 240.

Example values :

0 (default)	Use millisecond timing instead.
1	1 60^{th} of a beat (not much use as a value to use !)
15	1 sixteenth note (semiquaver)
20	1 triplet
30	1 eight note (quaver)
60	1 quarter note (crotchet)
120	1 bar of 6:8
240	1 bar of 4:4
240*8	8 bars of 4:4
etc. etc.	

Tip This is particularly useful for DANCE music, where you might want (say) a filter sweep or pan effect to change in time with the rhythm e.g. from full value to minimum every 4 bars, and back again.

User Controller MIDI Command

The actual MIDI command, through which the user controller value should be sent. Select this from the MIDI book appropriate to your soundcard. If this is not set, then no effect will be heard !

Examples

Example 1

For a 10 second LFO sweep, from 0 to 127 and back again, you would use:

Mode - 1 - LFO (Min-Max-Min)

Minimum - 0

Range - 127

Change - 1

Change range - 0

Update - 78ms (10000 ms / 127 steps)

Update range - 0

Set the User Controller command that you want, selected from the appropriate MIDI book file.

Example 2

For a 4 beat LFO Min-Max sweep, from 0 to 127, 0 to 127 etc. you would use:

Mode - 3 - Sawtooth Min-Max

Minimum - 0

Range - 127

Change - 1 (causes the update to be done as often as possible)

Change range - 0

Beat Cycle Length - 240 (4 x 60 x 60ths of a beat, or 4 beats)

Set the User Controller command that you want, selected from the appropriate MIDI book file.

Tip Both user controllers can work with separate time bases, e.g. one could work according to the beat, the other could work at a different rate, following millisecond based time cycles.

Tip Use them to do filter sweeps, great for dance music and special effects ! e.g. Using the 2 user microcontrollers allows a voice to be able to have an LFO drift in one direction and a modulation moving in the other direction at a different rate.

Tip Try playing AWESWEEP.SKD, for a demonstration of filter sweeping, using user microcontrollers, on the AWE32/SB32/AWE64/SB54 range of soundcards !

View 12 - AWE Controllers - LFO1 and LFO2

This parameter group view displays the first set of AWE EMU800 controllers:

AWE LFO 1 Filter Cutoff
AWE LFO 1 Frequency
AWE LFO 1 Pitch Shift
AWE LFO 1 Start Delay
AWE LFO 1 Volume Shift
AWE LFO 2 Frequency
AWE LFO 2 Pitch Shift
AWE LFO 2 Start Delay

View 13 - AWE Controllers (Envelope 1)

This parameter group view displays the second set of AWE EMU800 controllers:

AWE Envelope 1 Attack
AWE Envelope 1 Decay
AWE Envelope 1 Delay
AWE Envelope 1 Filter Cutoff
AWE Envelope 1 Hold
AWE Envelope 1 Pitch Shift
AWE Envelope 1 Release
AWE Envelope 1 Sustain

View 14 - AWE Controllers (Envelope 2 & Pitch)

This parameter group view displays the third set of AWE EMU800 controllers:

AWE Envelope 2 Attack
AWE Envelope 2 Decay
AWE Envelope 2 Delay
AWE Envelope 2 Hold
AWE Envelope 2 Release
AWE Envelope 2 Sustain
AWE Pitch Filter Cutoff
AWE Pitch Initial
AWE Pitch Resonance

View 15 - XG / SCC1 Controllers

This parameter group view displays Yamaha XG or Roland SCC1 specific controllers. Every parameter in this group is new for V2 (with the exception of Attack, Decay, Release):

Note Only relevant for Yamaha XG/Roland SCC1 soundcard owners.

Attack
Decay
Release
Drum Instrument Chorus
Drum Instrument Level
Drum Instrument Pitch Coarse
Drum Instrument Reverb
Filter Cutoff Frequency
Filter Resonance

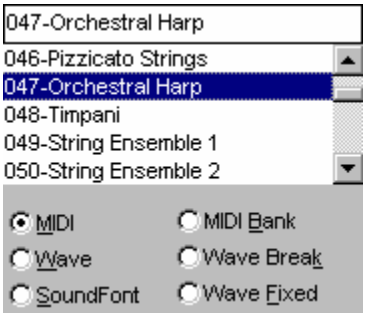
Vibrato Delay
Vibrato Depth
Vibrato Rate
XG Drum EG Attack Rate
XG Drum EG Decay Rate
XG Drum Filter Cutoff Frequency
XG Drum Filter Resonance
XG Drum Instrument Pan
XG Drum Instrument Pitch Fine
XG Variation Level

Edit Instrument Control

The Edit Instrument control is obtained when you click on a Patch cell. It contains a number of Radio buttons, the selected one of which defines what sort of instrument you want to use for the selected Voice. By default, the MIDI radio button is selected, which will allow you to selected one of the standard MIDI patches.

Note Not all options are available in all cases : some options are only available in 32-bit versions of Koan Pro, and some options are available only if DirectSound 5 (or later) support is both installed and enabled.

MIDI radio (MIDI Instrument)

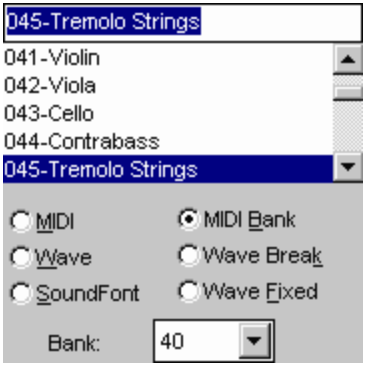


When the MIDI radio button is selected, you will be able to use the listbox to select a General MIDI patch to be used by your Voice, e.g. Acoustic Piano. Pressing the Enter key will cause your choice to be accepted and the dialog will be cleared. Pressing Escape will cause the dialog to close without making any changes.

You may also select your patch by typing a General MIDI patch name or the patch number in the text box. Press the Enter key to cause this to be selected.

You may also tab around the Edit Instrument control whilst playing your Piece and, once the patch list is selected (the text box will then no longer be selected), press the up/down arrow keys to hear the patch change whilst the Voice is playing (the Pageup/Pagedown and Home/End keys are also operative here). Once you have made your choice press the Enter key or double click on the patch.

MIDI Bank radio (Patch Banks)

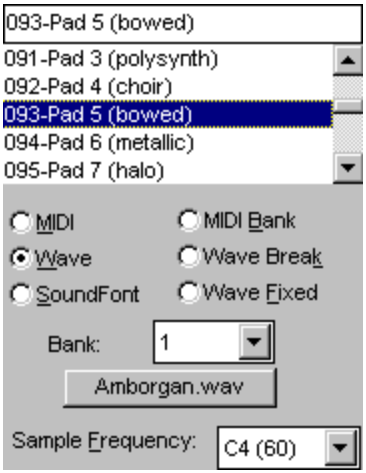


If you have a soundcard/external synth that supports the Roland GS standard or Yamaha XG standards (basically extended MIDI protocols that support the use of banks) or Gravis patches then you can select the MIDI bank radio button.

You will then be able to select a patch bank to be used for your Voice in the drop down control at the bottom of the Edit Instrument control. Patch banks are a way of extending the 128 General MIDI (GM) patches. In GM terms, the Acoustic Piano patch is patch 1 (of 128) in Bank 0 (the standard bank of 128). Built-in Patch Banks allow some soundcard vendors to include patches related but different to the main (default) patch thus giving you more sonic variety e.g. patch 1 bank 8 might be a de-tuned acoustic piano. You will need to refer to documentation with your soundcard/external synth to see what banks are available to you.

Note that Patch Bank may also be defined when selecting either SoundFonts or WAV files. This then defines the default patch bank to use, if your piece is ever played on a soundcard which does not support SoundFonts or WAV file playback. If you are not sure what value to use, then just keep this at the default setting.

Wave radio (WAV files)



If you have a 32-bit versions of Koan Pro, and you have DirectSound 5 (or later) support installed, then you will be able to select a Wave file (WAV) to be used for your Voice by selecting the Wave radio button. The specified WAV file can then be played back by the Voice

in preference to a GM instrument. You can select the Wave radio button by selecting Alt+W when in the control, or tabbing to it and pressing the spacebar or just clicking it with the mouse.

Once you have selected the Wave radio button, you will see a selection button below it. If you press this you will get the Select Wave File dialog, where you can select any Wave file (WAV) in any directory (note : only PCM encoded WAV files should be selected !). Once you have chosen this and pressed the OK button, select a default patch (and bank, if you wish) to be used if the WAV file cannot be found, and the WAV file can then be used by the Voice !

Use the Sample Frequency drop-box to specify the pitch / frequency at which the original sample was recorded. We assume by default that the sample was recorded at Middle C (otherwise known as C4 - or MIDI pitch 60). If you know differently, then you should change this value : otherwise, your instrument may well play out of key !

Wave files allow you to include in your Piece many special sounds not provided by your soundcard manufacturer. They are great for creating contemporary music including dance, house and drum n bass. Examples of Wave files you could use in your Pieces could include using speech, the coolest bass sounds, wild animal or instrument samples to add incredible life, depth and realism. You could ship to your friends/ customers your Pieces in .SKP, .SKT or .SKD format and their associated WAV files, provided that the providers of the Wave files allow this.

Note that you might experience occasional slight audible clicks when playing your piece using WAV files. This is a feature of the underlying implementation. You can help overcome this by tweaking offending WAV files with your favourite audio file editor tool, to remove any unwanted discontinuities at the start and end of the files.

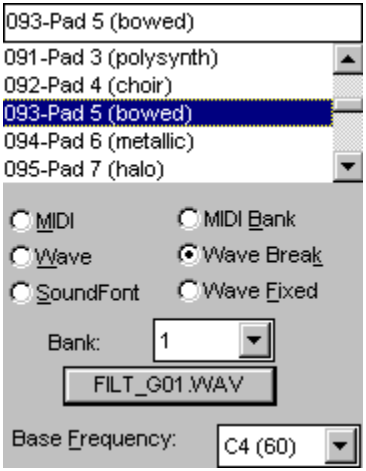
Tip: Various of the features of Koan Pro (especially the Koan ADSR parameters !) can be used to compensate for these clicking effects. Koan ADSR effects even work with Auto Chord Parameters voices, when using WAV file patches ! Clicks are generally not noticeable when using WAV breakbeats, however !

There are some estoric WAV file usages (e.g. Keyboard splitting across multiple WAV files) offered by Koan Pro, that are not recognised by the Edit Instrument control. If you have to use these features, then you should instead use Koan Pro to modify your Patch parameter strings directly.

Further Important Wave File Notes:

1. If you have a 16-bit version of Koan Pro, or if you do not have DirectSound 5 (or later) support installed (or if it is currently disabled); then you will still be able to select this option, but the WAV files you select will only be able to play back in a very restricted fashion.]
2. We recommend that you only use WAV files that have been saved using PCM encoding !
3. If you have saved a Piece using Wave files not in the path the SKME uses (See Options Setup), then you must set the path the SKME uses (See Options Setup) so that the Wave file can be found next time you play your Piece.
4. Loading Wave files takes a little time; the larger the Wave file, the longer it takes.
5. When sending out Wave files to your customers/ friends, make sure you get them to put the files in the same directory as the SSEYO Koan piece which uses them, or advise your customers/friends to set up their path (see note 2 above).
6. Do please note that WAV instruments are (of course) not recorded to MIDI files ! This, clearly, is because WAV playback is independent of MIDI lines.

Wave Break radio (WAV files)



If you have a 32-bit versions of Koan Pro, and you have DirectSound 5 (or later) support installed, then you will be able to Wave files (WAV) to be used for playing a generative breakbeat Voice by selecting the Wave radio button. You can select the Wave Break radio button by selecting Alt+K when in the control, or tabbing to it and pressing the spacebar or just clicking it with the mouse.

Wave file-based breakbeats, allow you to include in your Piece many special sounds not provided by your soundcard manufacturer. They are great for creating contemporary music including dance, house and drum n bass. To use Wave breakbeats, your Voices Pattern parameter must have been set-up to be a generative breakbeat (as a Fixed pattern) - or the Voice will not sound right if you select the Wave Break radio button !

They way they work is that there are 2 components: a sequential pattern of note events (or generative pattern) anchored around a specific starting pitch (the Forced Frequency) and the pitch values of the patches (Wave file-based breakbeats) used by the pattern. The pattern determines what specific pitches are to play and in which order (e.g. C60, C61, C62 etc) and the Base Frequency defines what pitch each of the consecutive Wave file patches will start from (e.g. C60, C61, C62…).

So, once you have selected the Wave break radio button, you will see a selection button below it. If you press this you will get the Select Wave File dialog, where you can select any Wave file (WAV) in any directory (note : only PCM encoded WAV files should be selected !). You must select a file name which of the form *01.WAV (e.g. FILT_M01.WAV); this file must be the first of a sequence of WAV fragments that are used to make-up the breakbeat. Once you have chosen this and pressed the OK button, select a default patch (and bank, if you wish) to use if the WAV file cannot be found, and the WAV file can then be used by the template !

Use the Base Frequency drop-box to match up the pitch value of the first WAV file in the series to the expected Forced Frequency pitch value around which the generative breakbeat patterns are anchored. When a note in the pattern is played at this pitch, the first listed breakbeat file will be played. When a note is played at this pitch + 1 semitone, the second listed breakbeat file will be played; etc. See Breakbeat file names section below for an example.

Koan X template authoring tip: Koan X has no way of knowing the actual Forced Frequency pitch value used by the template because the Forced Frequency parameter will have been protected when the original template was created by SSEYO Koan Pro. Therefore, we

recommend that authors use the default value of Middle C (otherwise known as C4 - or MIDI pitch 60) for this Forced Frequency pitch value.

WAV Breakbeat file names

WAV breakbeats are made-up of a number of small files, which might be named something like :

mybrk01.wav
mybrk02.wav
mybrk03.wav
mybrk04.wav
mybrk05.wav
…

By specifying the first file as the basis for the breakbeat (i.e. mybrk01.wav in this example), then you are telling Koan Pro to use all files starting from here, and moving on in numeric sequence up to and including mybrk99.wav (if it exists !), to make-up the breakbeat. If the file mybrk03.wav could not be found in our example, then only the files named mybrk01.wav and mybrk02.wav would be used.

In our example above, if the Forced Frequency were defined to be 60 (but the Base Frequency is set to be 62 - a mismatch in this case), then we would find the breakbeat files played in the following manner:

Freq 60 - Nothing played!
Freq 61 - Nothing played!
Freq 62 - play mybrk01.wav (Base Frequency 62)
Freq 63 - play mybrk02.wav
Freq 64 - play mybrk03.wav
…
Freq 84 - play mybrk25.wav

Nothing else is played outside of these ranges.

Please also refer to the Further Important Wave File Notes (above)

Wave Fixed radio (WAV files)

If you want a Voice to play a Wave file such that the Wave file is always played back at its original sample pitch, irrespective of any notes that might be composed for that Voice, then

simple select this radio button. This option is available even in 16-bit versions of Koan Pro. You can select the Wave Fixed radio button by selecting Alt+F when in the control, or tabbing to it and pressing the spacebar or just clicking it with the mouse.

Once you have selected the Wave Fixed radio button, you will see a selection button below it. If you press this you will get the Select Wave File dialog, where you can select any Wave file (WAV) in any directory (note : only PCM encoded WAV files should be selected !). Once you have chosen this and pressed the OK button, select a default patch (and bank, if you wish) to use if the WAV file cannot be found, and the WAV file can then be used by the Voice !

Tip: This option can be very useful if you want to play a simple natural ambient sound, such as the sound of Waves crashing on a beach.

Please also refer to the Further Important Wave File Notes (above)

SoundFonts

If you have a soundcard that supports SoundFonts, then you will be able to select a SoundFont to be used for your Voice by selecting the SoundFont radio button This SoundFont can then be played back by the Voice in preference to a GM instrument. You can select the SoundFont radio button by selecting Alt+S when in the control, or tabbing to it and pressing the spacebar or just clicking it with the mouse. At the time of release suitable soundcards are the Creative Labs AWE64, AWE32 and SB32; and the EMU 8710. Note that you must have the minimum 500Kb onboard RAM for the SoundFonts to be loaded.

Once you have selected the SoundFont radio button, you will see a selection button below it. If you press this you will get the Select SoundFont Bank dialog, where you can select any SoundFont Bank (either SF2 or SBK : note that the EMU 8710 card only supports the use of SF2 files) in any directory (SoundFont banks are just collections of SoundFonts). Once you have chosen this and pressed the OK button, SSEYO Koan Pro gets very smart. It will read through all the SoundFonts available in that bank and present them to you in a list box. This makes it easy for you to see exactly what is available to you without having to wade through lots of blank entries. You can select one of these and either double click on it or press the Enter key to select it.

You can also decide into which bank (see above) to put the SoundFont. This is useful if you want to have say two Voices using the acoustic piano patch (patch 001), but you want each

one to use a different SoundFont. You can this by putting the SoundFonts in different banks (e.g. 001.1 and 001.2). If you had the different SoundFonts in the same bank with the same instrument (e.g. 001.1 and 001.1), SSEYO Koan Pro has no way of telling which SoundFont it should use! Also see notes below.

SSEYO Koan Pro does not load the whole SoundFont bank, only the specific SoundFont you want. This means you can load individual SoundFonts from all sorts of different SoundFont banks (DRAM permitting) - without having to load the entire bank. Neat eh? There are 2 benefits to this:

1. You do not have to create new SF2s specially for each piece. You could for instance use your favorite guitar sound from your GUITAR.SF2 and favorite piano from PIANO.SBK.
2. SSEYO Koan Pro maximises your use of DRAM. As a simple example, say you have the standard 512Kb of onboard DRAM and you have one target SoundFont bank, which is 2Mb. Say there are only 3 SoundFonts in it you want to use, and these 3 have a combined size of 370Kb. Easy. Just put each one on a different Voice and away you go. You do not have to load all 2 Mb.

SoundFonts allow you to include in your Piece many special sounds not provided on the ROM of the AWE64/AWE32/SB32. They are great for creating contemporary music including dance, house and drum n bass. Examples of SoundFonts you could use in your Pieces could include using speech, the coolest bass sounds, wild animal or instrument samples to add incredible life, depth and realism. You could ship to your friends/ customers your Pieces in .SKP, .SKT or .SKD format and their associated SBK files, provided that the Voice artists and providers of the SoundFont banks allow this.

Further Important SoundFont Notes:

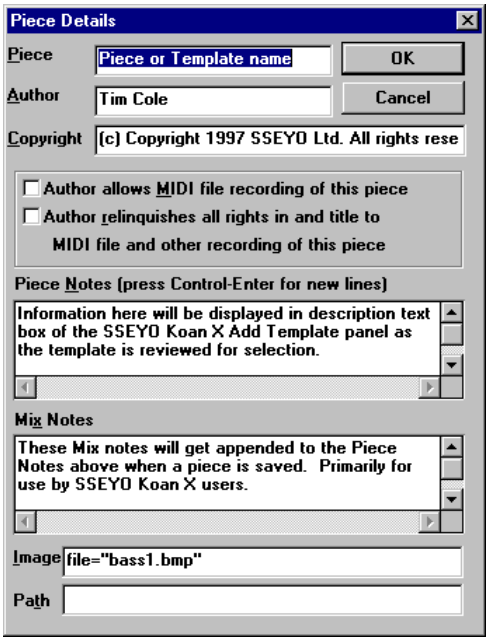
1. If you have saved a Piece using SoundFonts not in the path the SKME uses (See Options Setup) then you must set the path the SKME uses (See Options Setup) so that the SoundFont can be found next time you play your Piece.
2. SSEYO Koan Pro only supports the use of samples stored in the Melodic section of the SoundFont bank, allowing each sample to be triggered at a different pitch, as for any normal instrument. SSEYO Koan Pro does not support the use of samples in the Percussive section of the SoundFont bank for the simple reason that the Creative Labs drivers do not currently support individual loading/unloading of samples in this section ! As an alternative for template authors, we'd suggest that you create Rhythmic type patterns using Koan Pro, force the MIDI LINE to be 10, and then load-up the drum sample into a melodic bank (not into a drum bank !) using Vienna. You will then be able to load and play the "drum" sound OK !
3. Each SoundFont is stored by default in Bank 1. If you use two Voices that each have the same GM patch (i.e. 005 Rhodes Piano) and you set them both to use SoundFonts using the same bank, you will get strange results (even if the SoundFonts are different). This is because both Voices are trying to use Patch 5 Bank 1 (5.1). The solution is to change the bank number (or even the GM patch)of one of the Voices.
4. Loading SoundFont compatible banks onto the AWE64/AWE32/SB32 takes time; the larger the SF2 the longer it takes. In the 16 bit version of SSEYO Koan Pro this means your Piece can stop playing momentarily if you are loading a large SoundFont, if you have a slower computer or if you are not composing far enough ahead (See Option Setup). However, the good news is that loading is much faster in Windows 95 than in Windows 3.1.
5. If you load SoundFonts during a mix, the SKME will reload all the SoundFonts when the piece restarts. The reason for this is so that the SKME can verify which SoundFonts are in use. If you do not then add any more SoundFonts and restart the piece, it will not need to reload them.

6. Generally, you should ensure that the GS Synth Bank is not loaded by your AWE64/AWE32 Control Panel before loading a Koan piece containing SBK/SF2 support. This is because the GS sample map may use ALL the available default memory (if you have only 512Kb SoundFont memory, that is). You should instead ensure that the AWE64/AWE32 Control Panel Synth Bank is set to General MIDI.
7. The SKME fully supports loading of individual SoundFonts from multiple files, and the Creative Labs drivers for Windows 95 cater for this functionality. However, if you are using Windows 3.1 and you notice that the whole of the SBK (and not just the SoundFont you require) is being loaded you will need to contact Creative Labs to obtain the latest drivers.
8. When sending out SoundFont compatible banks to your customers/ friends, make sure you get them to put the banks in the same directory as the SSEYO Koan piece which uses them, or advise your customers/friends to set up their path (see note 2 above). We also recommend that if you do ship pieces with SoundFont files, that they can fit into the default supplied AWE32/SB32 (512k) DRAM.
9. At time of writing (January 1998), any AWE64 / AWE32 / SB32 users who wish to play-back both SoundFont and WAV instruments at the same time will hear some strange effects, due to a feature in the way that hardware mixing is implemented in the AWE Direct Sound drivers ! Please refer to Options Setup to see how to work-around this.

See also

Patch
WAV File

Piece Details Dialog



 Pressing the Piece Details button calls up the Piece Details dialog where you may add or edit any notes you want to provide about your piece.

Piece, Author and Copyright fields

Enter Piece, Author and Copyright information relating to the piece. The Piece, Author and Copyright text boxes will each accept up to 255 characters. If your details/notice do not all fit on the screen, simply click on the field with the left mouse button and drag it left and/or right.

Typical entries would be:

Piece: Koan Piece 1

Author: John Doe

Copyright: © Copyright 1998 Record Company Ltd. All rights reserved.

Note Even though as author of the piece you will own the copyright on the piece, if you are using templates (e.g. SSEYO Koan X templates) you will not own the copyright on any constituent templates that went together to make that piece. You can review the copyright notices for individual templates used within the piece, by saving the piece to an .SKP file, and viewing the resultant Piece Details within that SKP file by using a playback product such as Koan Web or Koan Plug-in.

Note The Piece Author can be different from the Copyright holder. For example, Band X records an album for Record company Y, Band X being the Author/ composer. In the contract with the artist Record company Y states that they own the copyright on any recordings or materials produced.

Recording Rights/ Copyright

Please refer to copyright for further clarification, as well as the sections on Recordable? / Redistributable.

There are 2 tick/check boxes you can select or leave deselected: checking a tick box means you agree with the statement next to it, leaving a tick box unchecked means you disagree with the statement next to it.

Author allows MIDI file recording of this piece

If checked, this means you are allowing a user to make MIDI file recordings of the piece. Should you supply users your piece in a SKD file format, they could check or uncheck this box. If you have this box checked but leave the box below unchecked you are effectively saying you are allowing them to make recordings but you are reserving to yourself or company any rights or potential rights associated with recordings of the piece. You will always own the copyright on any SSEYO Koan file you produce (i.e. SKP, SKD or SKT files created by SSEYO Koan Pro as opposed to recordings of them as mentioned above) unless you specifically assign the copyright to another party.

Author relinquishes all present and future rights in and title to MIDI file and other recording of this piece.

If checked, you are giving away any rights to MIDI file and other recordings made of this piece that may be may - this is primarily aimed at SSEYO Koan Pro users who are creating SKP/ SKD pieces for their customers where they want their customers to be able to create and own their own content, this being one of the main benefits of SSEYO Koan technology.

Piece Notes

Note If this field is not editable then you are mixing a **protected** piece; in which case you would need to enter your notes in the Mix notes fields, described below.

The Piece Notes can be anything you like, from text describing the mood to the patches you used. Put anything you think someone else is likely to read - think of them as CD sleeve notes. The Piece Notes text box can accept text descriptions up to 32,000 characters, which equates to around 800 lines of text. Each line takes up 2 characters in addition to the text added, be it blank or not.

Mix Notes

You can use the Mix Notes if you are editing a **protected** .SKD or .SKT file that you have obtained from elsewhere, such as from a friend or web-music artist. In that case, these "mix notes" will then get appended to the Piece Notes of the protected file (the Piece Notes of a protected file can never be edited or deleted, only added to). This lets you enter information related to your remix of the original piece. The mix notes might include, for example, information on how you changed the instruments used within the piece, or how you changed the overall volume mix within the piece. The Mix Notes text box can accept text descriptions up to 32,000 characters, which equates to around 800 lines of text. Each line takes up 2 characters in addition to the text added, be it blank or not.

Image

This is of use if you are creating templates for use with SSEYO Koan X; more details are to be found in the section on How To Create Templates For Koan X.

Set the Image value to be something like :

file="drum1.bmp"

where drum1.bmp must be a 16- or 256- color bitmap file in the SSEYO Koan X IMAGES directory (e.g. C:\KOANX\IMAGES). Note that when you drop the template into a piece with SSEYO Koan X, Koan X will override and set the Voice-level "Image" parameter to be the same as was defined at the piece level.

See also

Copyright
Creating protected SKT files
Recordable?
Redistribute in SKD/SKT ?
Save to SKP ?

Master Controls

The Master Controls dialog is available from the Options menu under Master Controls.. These controls override, but do not alter any piece level settings that may be provided within the piece. They are additive in that they add a uniform amount to the value of this parameter for each instrument in the piece.

Volume Sets the master volume

Pan Sets the master stereo position of the output

Reverb Sets master reverb level.

Chorus Sets master chorus level

Note 1: The Volume control has no effect if your MIDI Output device solely uses the OPL3 chipset (e.g. SB16 and SB16 equivalents) or is one that doesn't support continuous volume controller changes - in which case use the soundcard's own Mixer application or the Windows 95 Mixer application. If you have a Wavetable soundcard or one that does support continuous volume controller changes (e.g. AWE32/AWE64/SB32/SB64, SCC1, DB50-XG, Gravis, NuSound) then this works fine. See Setup Options.

Note 2: Reverb and chorus settings will only have any effect on soundcards/ synths that support them.

Note 3: If you notice delays in response they could be caused by a large Composer time value.

Chapter 3 - Quick Learning

Quick Start - Playing the Demo Pieces

DEMO1.SKD and DEMO2.SKD

To give you an idea of the sort of material you can do with Koan, we have provided some demo pieces for you to look at. Once you have checked these out you can either next take a look at the **Quick Start - Creating a Complete Piece** section or the **Quick Tutorial - Building the Demo Templates/Pieces** section. Or you could even start off on your own. We hope that looking at how these demo pieces have been put together really will give you ideas on how to do what you want to do.

Tip: SSEYO Koan Pro uses left and right mouse buttons. If you cannot get SSEYO Koan Pro to do something you want, try the other mouse button! For instance, context sensitive online help on each parameter is found though the right mouse menu.

Tip: If you ever encounter any problems, please checkout the Common Questions section.

First off, there are a number of terms which we use frequently and it is a good idea to know what these are: Piece; Voice; Parameter; Envelope; and yet more terminology…

Opening, playing and closing the Demo pieces

Open a piece

Press the File open button or select File Open from the menu. Try opening **DEMO1.SKD** (for GM/Wavetable/AWE cards) or **DEMO2.SKD** (XG soundcards/synths). These will be in the EXAMPLES subdirectory under the main directory where you installed SSEYO Koan Pro (default is *drive*:\KOANPRO).

Play a piece

Either press the Play button to play the piece, select Control Play from the menu or press the spacebar.

Fast foward the playing piece

Press the Fast Forward button to scroll through the piece or select Control Fast Forward from the menu. You can also use the left mouse button to move the piece marker by clicking on the position to which you want to fast forward the piece, or use the ALT+0 to 9 key combination to move to that percentage position (9 = 90%) through the piece. The way the SKME works means you will hear no 'jumping' or discontinuities in the piece (unless the volumes of the section are different or you have a slow machine - see Options Setup Dialog) and composition will continue smoothly.

Rewind the playing piece

Press the Rewind button to scroll back through the piece or select Control Rewind from the menu. You can also use the left mouse button to move the piece marker by clicking on the position to which you want to rewind the piece (see also comment for Fast Forward).

Pause a piece

Press the Pause button or select Control Pause to temporarily stop the SKME composing

Record a piece to a MIDI file

Either press the Record button, select Control Record from the menu or press F5 to record a MIDI file.

Stop a piece

Either press the Stop button, select Control Stop from the menu or press the spacebar.

Viewing the Piece's Details:

Each piece can be given its own comments, describing it. To view or edit these, select the Piece Details button on the top toolbar. To edit the piece details simply edit/add text to the appropriate fields.

Note The piece details are editable only for .SKD format files and then only in SSEYO Koan Pro. Once an encrypted 'Play' file (.SKP) has been created the comments are permanently encrypted within that file and are Read Only. SSEYO Koan Pro cannot load or display a Play file. To save a Play file from your piece select File Save Play File from the menu. *See Piece Details for more information.*

Quick Start - Creating a Complete Piece

This section is meant to be a brief but slightly wordy introduction on how to create a complete simple piece almost from scratch, plus a tiny bit of useful background to help with your understanding. If you have not yet played the demo pieces, why not do that now in the **Quick Start - Playing the Demo Pieces** section.

For quick, no messing, 1-2- 3, step-by-step instructions on how to build some great templates (the Koan building blocks) please refer to the Quick Tutorial - Building the Demo Templates/Pieces section.

Alternatively, go to the Using SSEYO Koan Pro section for quick links to all the major components in the product.

Useful Background Before We Get Started

Tip: We suggest you have a quick double-check on our terminology, because this is used everywhere!

Each piece contains a number of voices (shown in rows in the Power View) with a number of 'voice level parameters' (shown in columns) whose values will vary the way in which the voice will produce its music (there are 15 'views' of these parameters; icons for which are in the lower toolbar). You can change the width of each column by double-clicking on the column header with the mouse (each column header can display the abbreviation of the parameter or its full name) or by dragging the column edges; the first 5 'grayed' columns (from voice number to Mute) are common to each 'view'. In addition there are a number of piece level

parameters that effect the way the whole piece sounds, and these are shown in the 'piece views'.

The most important factors determining which notes each voice will play are determined by the Voice Types and the Rules. In general, each Voice Type has its own color-coded view which shows closely related parameters. Some parameters take effect only when the Voice Type is set to a specific value, e.g. Follow Named Voice only takes effect when the Voice Type is Follows. The Rules (Scale Rule, Harmony Rule, Next Note Rule and Rhythm Rule) generally determine which notes are played, and they allow all the voices to interact with each other.

A number of parameters in SSEYO Koan Pro have a minimum value and a 'range' associated with them. The range is always added to the minimum to determine how far the parameter can deviate from the minimum value, i.e. if the Pitch is 60 and the Pitch Range is 24 then any note played can be between pitch 60 and pitch 60+24 (84). The actual values used are chosen at random from within this band, dependent of course on the rules used by the voice.

Lists are fundamental to SSEYO Koan Pro and are accessed via the Edit Lists menu, by pressing CTRL+L or clicking on a cell with the right mouse button and selecting Lists from the shortcut menu. Every parameter allows you to define a list of values from which it can choose a value when the piece plays. Parameters values with lists attached are shown with a gray cross-hatch.

Finally, every parameter is changeable in real-time. How soon the change can be heard depends on how far in advance you have asked the SKME to compose.

Create a complete new piece from scratch

1. Either press the File New button  , select File New from the menu or select CTRL+N
2. Select a Template from the selection presented, upon which to base your piece, e.g. RAVE.SKT, and press OK (if there are no templates present, create a template list from the File, Create Template List menu item). (Note: To hear this template in its best light, XG soundcard/synth users should set Yamaha XG System On to be Yes, as this drum kit also contains some specific XG controller settings.)
3. You can stop or start the piece at any time by pressing the space bar, using the play and stop buttons on the toolbar or by selecting Control Play or Control Stop from the menu

Adding a voice and changing some voice level parameters

1. Add a voice by selecting Edit Add from the menu or select CTRL+A
2. Type in the name you want to call the voice in the Voice Name column, e.g. First Lead, and press the Enter key. Notice that the **parameter name** of the current cell is always shown at the top right of the Power view and the **view** you are in is shown on the top left hand side of the Power view.
3. Change the Patch by pressing the Edit Instrument Control button (new V2.1) or by typing in either the patch name (e.g. Lead 1) or patch number (e.g. 87) and press the Enter key
4. Set the MIDI channel by typing in a number from 1 to 16 and pressing the Enter key or use the + and - number keys to increment/decrement the value (you can leave the MIDI channel at 0 if you want the SKME to look after this for you)
5. Set the Voice Type to e.g. Rhythmic (which is the default) by selecting the Voice Type cell and press the Enter key to toggle between the 6 types Voice Types (or press 'R')
6. If you want to mute the voice select the mute cell and press the Enter key to toggle it on or off. Alternatively Solo the voice by pressing the '/' key (or CTRL+ENTER) and unsolo it with the '\' key (or CTRL+ENTER)

7 Change the minimum pitch of the voice by increasing or decreasing the Pitch cell value e.g. 47 (middle C is 60). Try using the mouse speed control for this. Click on the cell and drag the mouse to the left or right

8 Change the range of pitches above this value by increasing or decreasing the Pitch Range cell value (1 octave is represented by a range of 12)

9 Change the minimum length of the Phrase played by adjusting the Phrase Length parameter (e.g. 3) and set its range with the Phrase Length Range parameter (e.g. 8)

10 Set the likelihood of a Phrase note being a rest with the Phrase Rest % parameter (e.g. 25%)

11 Set the gaps between phrases with the Phrase Gaps (e.g. 2)0 and Phrase Gaps Range parameter (e.g. 10)

12 Try adding another voice yourself (with CTRL+A), change the patch to 90 (step 3 above) and turn it into an Ambient voice (step 5 above) with pitch 45. Etc.

Changing envelope values

1 Either select the Volume envelope (if not already selected) from the toolbar, or press the F6 key to move between the parameter and envelope views and then press CTRL+1

2 Select the Envelope Toolbar button from the top toolbar to display the toolbox and select the Freehand tool (a pencil). 'Draw' on one of envelopes with the left mouse button. The height of the envelope will determine how the volume of that voice will behave over the time the piece plays

Moving between views and selecting the Rules used by a voice

1 To change parameter views select one of the 15 view icons or press CTRL+1 to 0 (for views 1 to 10) or CTRL+SHIFT+1 to 5 (for views 11 to 15). For this example you will need to select View 8 from the toolbar or press CTRL+8

2 Set the Scale Rule used by the voice (Lead 1) by selecting the Scale Rule cell for the voice and then press the Enter key. Use the up/down arrow keys to select a rule from the pre-defined list and press Enter to select the rule you require. If there is only one there, first add another one in 4 below and come back to this step. The Scale rule determines with what notes will be played for Rhythmic voices and some others (this can also be set at the piece level in the Piece View).

3 In the Scale Rules window, selectable off the top toolbar, you can make your own Scale rules (double-click in an empty cell to add one) or edit those provided as defaults).

4 Set the Rhythm rule in a similar way; this determines with what duration notes will be played for Rhythmic voices (and some others).

5 Set the Harmony rule to determine what harmonies are allowed when this voice interacts with other voices (this can also be set at the piece level in the Piece View).

6 Set the Next Note rule to determine how far away from the last note will be the next note the voice plays (this can also be set at the piece level in the Piece View).

Changing Piece level parameters

1 To select the Piece view choose Group Piece from the menu bar or press the Piece icon on the top toolbar

2 Set the Tempo parameter to change the tempo of the piece (e.g. 136)

3 Set the Meter parameter to the meter you want for your piece (in this case we will leave it in 4:4)

Adding/copying/pasting and deleting Voices

1 To add a voice select Edit Add from the menu or CTRL+A.

1 To copy a voice select any cell in the voice you want to copy and choose Edit Copy from the menu, CTRL+C or click with the right mouse button and select Copy Voice (e.g. do this with the ambient voice)

3 To copy a parameter or envelope value only select Edit Copy Parameter from the menu, CTRL+SHIFT+C or click with the right mouse button and select Copy Parameter.

2 To paste a copied voice or parameter select any blank cell and choose Edit Paste from the menu, CTRL+V or click with the right mouse button and select Paste (and then change the patch to e.g.104)

3 To cut a voice select any cell and choose Edit Cut from the menu, CTRL+X or click with the right mouse button and select Cut

4 To delete a voice select any cell and choose Edit Delete from the menu, CTRL+DEL or click with the right mouse button and select Delete

Adding a pattern to a voice

1 First add a new voice with CTRL+A

2 Change the Voice Type to FixedPattern and choose a patch (e.g.36).

3 Initially set the Patterns Use % parameter to 100% (this is the default) so the pattern will play all the time.

4 Select the Pattern Editor from the top toolbar, or press the Enter button when in the Patterns cell in Parameter View 5.

5 Use your left and mouse button and SHIFT + left mouse button to add notes to the 'grid'. Just doodle if you like! Set the octave you would like the pattern to start at (e.g.C0)

6 Make sure the piece is stopped and then press Start to hear your pattern. Press Apply to save it to the piece. Close the Pattern Editor and play the piece.

Adding, editing and deleting rules

1 To add a new rule to one of the rule windows, select Edit Add or Edit Add Random from the menu, select CTRL+A or double click in a blank cell.

2 To edit a rule click on an drag the bars up or down with your left mouse for real time changes to the values.

3 To delete a rule, highlight it and select Edit Delete from the menu or use your right mouse button to bring up the shortcut menu.

Adding SoundFont banks / WAV files to your piece (only applicable if you have the appropriate AWE soundcard or DirectSound 5)

1 To enter the SoundFonts / WAV directly to the piece either use the Edit Instrument Control (see page 187) or just type them into the patch cell (e.g. type **90.1 plastic.sbk 13** into the cell where patch 90 is). What you are doing here is saying take SoundFont 12 from PLASTIC.SBK and play it as patch 90 (bank 1). This means if there is no SoundFont capable card in situ, the patches will still play the default GM patches that you wanted.

2 Alternatively, you can add them at the piece level in Piece Parameters View 3 (press the Piece view button on the top toolbar or select Groups Piece from the menu):

3 Select the AWE SoundFont Bank cell or the Gravis Melodic/Drum Patch Bank cell and type in the bank and name of the SoundFont or patch bank you want.

4. Choose Options Setup from the menu and type in the path of your SoundFont or patch bank if it is not in the same directory as your piece.
5. Select one of the parameter views and select the Patch cell of the voice you want.
6. Set the patch and bank number by typing the value in and pressing enter, e.g. 12.1 and press play.

Quick Tutorials - Building the Demo Templates/Pieces

Note To see how to play the demos supplied please refer to the Quick Start - Playing the Demo Pieces, or for a quick overview on creating a piece from scratch see Quick Start - Creating a Complete Piece.

The step-by-step tutorials will take you the building of the component parts of 2 top quality demo pieces supplied with the SSEYO Koan Pro program. We have also included a few general purpose examples, below these. We recommend you work through all examples, and they should not take you long at all to complete. The final results will be heard when you combine your efforts together to create a piece - and these are the demo pieces.

DEMO1 (special AWE features) - build templates and complete piece
DEMO2 (special XG features) - build templates and complete piece

Tip: Open the original template and play it a few times to hear what it does. When you make your own why not have it playing as you make your changes? You can thus hear the effects of what you are doing as you do them. If you have skipped a tutorial section and you come to add all the templates together to create your own piece, don't worry, just open up the template, copy it and paste it into your piece. Remember to save your file as you go!

Key: Some instructions below are soundcard specific e.g. AWE only or XG only. This just means that these instruction allow you to really optimize the template for these cards. A very small number of instructions (e.g. Reverb) may not apply to some FM / Wavetable cards.

Demo Piece DEMO1.SKD (special AWE features)

Quick Tutorial 1 - Building the Template DEMO1T1.SKD

Chording voice with Echo feel

1. From File New select a "Normal Template".
2. Change the Voice Name to Trance 5 and change the patch to 017 - Hammond Organ.
3. Change the Voice Type to Fixed Pattern.
4. Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell containing the  button and press Enter.
5. Add two 1/16th Notes at the beginning of the blank pattern (look at the demo file to see).
6. Close the Pattern Editor with CRTL+F4 (this will also ask if you want to save changes to the file).
7. Select View 7 (CTRL+7) and Change the Chord Depth to 3, Chord Delay to 75 and Chord Velocity factor to -16 and set the Chord Strategy to Interval within Scale Rule.
8. Select View 9 (CTRL+9) and set the Reverb to 127.
9. Save your piece to UDEMO1T1.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Tip: Often you can create really great pieces by making copies of templates, changing the pitches thinning them out a bit (e.g. with and Phrase Note Rest%). Try it with this template. Copy it twice (to give you 3 voices total), set the pitches to 34, 44 and 55 and set the Phrase Note Rest% parameter to 25 - listen to piece GAMELAN1.SKD.

Quick Tutorial 2 - Building the Template DEMO1T2.SKD

Mutating Pattern (with AWE filtering)

1 From File New select a "Normal Template".

2 Change the Voice Name to Gamelan, change the patch to 010 - Glockenspiel.

3 Change the Pitch to 44, Pitch Range to 11, Phrase Length to 8, Phrase Length Range to 0, Phrase Gaps to 4 and Phrase Gaps Range to 0.

4 Change the Voice Type to Fixed Pattern.

5 Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell containing the  button and press Enter.

6 Add eight 1/16th Notes to the blank pattern (look at the demo file to see).

7 Close the Pattern Editor with CRTL+F4 (this will also ask if you want to save changes to the file).

8 Change the Mutation Factor to 500 and Mutate No. Bars to 2.

9 Select the Rhythm Rule Window (Alt+G+R).

10 Add a new rule with CTRL+A and name it Gamelan.

11 Change the rule so that only 1/8 and 1/16 notes are allowed.

12 Close the Rhythm Rule window with CTRL+F4.

13 Select View 8 (CTRL+8) and change the Rhythm Rule to Gamelan.

14 Select View 9 (CTRL+9) and set the Reverb to 0.

15 Select Voice X view and select View 10 (CRTL+SHIFT+0).

16 Make the following changes:

- Micro Note Delay Range - 40 / Micro Note Delay Change - 40
- Micro Pitch Range - 10 / Micro Pitch Change - 10
- Micro Pitch Update - 1
- Micro Modulation Range - 7
- Micro Volume Change - 10 / Micro Volume Range - 10

17 Select View 14 (CTRL+SHIFT+4).

18 AWE only: Set AWE Envelope 2 Release to 2222.

19 AWE only:Set AWE Pitch Filter Cutoff to 53 and press CTRL+L to create a list of values.

20 AWE only:Press Alt+R 5 or 6 times to add some random values to the list. You can use the up/down key to move between list values and the +/- or [or] keys to change the values (or the mouse).

21 AWE only:Apply the changes and Close the List.

22 Finally, select Piece Parameters window (ALT+G+I) and View 1 (CTRL+1) and set the tempo to 120.

23 Save your piece to UDEMO1T2.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 3 - Building the Template DEMO1T3.SKD

Generative Chording voice

1. From File New select a "Normal Template".
2. Change the Voice Name to Joe Shapes, change the patch to 093 - Pad 5 Bowed and change the pitch to 44.
3. Change the Voice Type to Fixed Pattern.
4. Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell
5. Set the number of bars to 4 and add just one 1/16th note to the beginning of the bar at position C5.
6. Select View 7 (CTRL+7) and Change the Chord Depth to 3, Chord Depth Range to 2, Chord Pitch Offset to 8, Chord Delay to 15 and Chord Velocity factor to -16 and set the Chord Strategy to Interval within Scale Rule.
7. Select View 11 (CTRL+SHIFT+1) and make the following changes:
8. Press the button for the User Controller 1 MIDI Command (or tab/arrow to the cell and press Enter). Open the MIDI Book MIDIBOOK.TXT, select **Pan** and press Add. Then Press OK to close the dialog.
9. UserController 1 Mode - Random Drift
10. User Controller 1 Change Range - 126
11. User Controller 1 Update - 10
12. User Controller 1 Update Range - 90
13. AWE only:Select View 14 and Set AWE Envelope 2 Release to 5555.
14. Select the Velocity Envelope (use F6 to toggle to the Envelope view) and Nudge the envelope up. To do this first open the Envelope Toolbar (ALT+W+E) and select the Nudge Up tool. Now hold down the CTRL key and double click on the envelope to nudge it all up a bit.
15. Select Piece Parameters window (ALT+G+I) and View 1 (CTRL+1) and set the tempo to 120. Select View 2 and set the Piece Root to C.
16. Save your piece to UDEMO1T3.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 4 - Building the Template DEMO1T4.SKD

Generative Bass Riff

1. From File New select a "Normal Template".
2. Change the Voice Name to One Bass, change the patch to 033 - Acoustic Bass and change the pitch to 12.
3. Change the Voice Type to Fixed Pattern.
4. Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell.
5. Add just one ¼ note to the beginning of the bar at position C2.
6. Go to the Rhythm Editor by pressing the  button, and press  to add a blank pattern.
7. Add a 1/16th note at a position of 11/16ths and another at 14/16ths.

8 Press the  button to load the sequence editor.

9 Press  to create a blank sequence.

10 Add a second sub-sequence by double-clicking in a blank cell.

11 Double click in the second cell to bring up the sequence event dialog. Enter Pattern From 2 To 2 and press OK.

12 Press Apply and close the Pattern Editor.

13 AWE only: Select View 14 (CTRL+SHIFT+4) and set AWE Pitch Filter Cutoff to 5.

14 Select the Velocity Envelope (use F6 to toggle to the Envelope view) and maximize the envelope up. To do this first open the Envelope Toolbar (ALT+W+E) and select the Maximize tool. Now hold down the CTRL key and double click on the envelope to maximize it.

15 Select Piece Parameters window (ALT+G+I) and View 1 (CTRL+1) and set the tempo to 120. Select View 2 and set the Piece Root to C.

16 Save your piece to UDEMOT4.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 5 - Building the Template DEMO1T5.SKD

Solo Ambient voice

1 From File New select a "Normal Template".

2 Change the Voice Name to Moon Mountain, change the patch to 005 - Rhodes Piano and change the pitch to 50.

3 Change the Voice Type to Ambient.

4 Select View 2 (CTRL+2) and then set Ambient Duration to 1000, Ambient Gap Minimum to 3000 and Ambient Gap Range to 1000.

5 Select View 9 (CTRL+9) and set the Reverb to 100 and Chorus to 100.

6 AWE only: Select View 11 (CTRL+SHIFT+1) and make the following changes:

7 Press the button for the User Controller 1 MIDI Command (or tab/arrow to the cell and press Enter). Open the MIDI Book AWE32MID.TXT, select AWE32 Pitch Filter Cutoff and press Add. Then Press OK to close the dialog.

- UserController 1 Mode - Random Drift
- User Controller 1 Change Range - 127
- User Controller 1 Update - 10000
- User Controller 1 Update Range - 10000

8 Press the button for the User Controller 2 MIDI Command (or tab/arrow to the cell and press Enter). Open the MIDI Book MIDIBOOK.TXT, select Pan and press Add. Then Press OK to close the dialog.

9 UserController 2 Mode - Random Drift

10 User Controller 2 Change Range - 127

11 User Controller 1 Update - 10

12 User Controller 1 Update Range - 90

13 AWE only: Select View 14 (CTRL+SHIFT+4) and set AWE Envelope 2 Attack to 11 and AWE Envelope 2 Release to 5940.

14 Select the Velocity Range Envelope (use F6 to toggle to the Envelope view) and Nudge the envelope up. To do this first open the Envelope Toolbar (ALT+W+E) and select the Nudge Up tool. Now hold down the CTRL key and double click on the envelope to nudge it all up a bit. Do the same for the Velocity Change Range Envelope.

15 Save your piece to UDEMO1T5.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 6 - Building the Template DEMO1T6.SKD

Ambient chording voice

1 From File New select a "Normal Template".

2 Change the Voice Name to Ensemble, change the patch to 049 - String Ensemble and change the pitch to 66.

3 Change the Voice Type to Ambient and change the Phrase Length to 1, Phrase Length Range to 0, Phrase Note Rest % to 10, Phrase Gaps to 0 and Phrase Gaps Range to 0.

4 Select View 2 (CTRL+2) and then set Ambient Duration to 3885, Ambient Duration Range to 7828, Ambient Gap Minimum to 7429 and Ambient Gap Range to 9047.

5 Select View 7 (CTRL+7) and Change the Chord Depth to 5 and Chord Velocity factor to -5.

6 Select View 8 (CTRL+8) and set Harmony Duration to 19884.

7 AWE only: Select View 14 (CTRL+SHIFT+4) and set AWE Envelope 2 Attack to 609, AWE Envelope 2 Sustain to 117, AWE Envelope 2 Release to 4619, AWE Pitch Filter to 96 and AWE Pitch Resonance to 55.

8 Select the Velocity Envelope (use F6 to toggle to the Envelope view) and Nudge the envelope up. To do this first open the Envelope Toolbar (ALT+W+E) and select the Nudge Up tool. Now hold down the CTRL key and double click on the envelope to nudge it all up a bit.

9 Save your piece to UDEMO1T6.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 7 - Building the Template DEMO1T7.SKD

Very Jazzy and advanced free-form Drum Kit (see also Drum Kit Tutorial for DEMO2.SKD)

1 From File New select a "Normal Template".

2 Change the Voice Name to HotJazz1, change the patch to D036 - Kick Drum 1.

3 Set the MIDI channel to 10.

4 Select View 8 (CTRL+8) and set Harmonize to No.

5 Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell.

6 Set the number of bars to 2.

7 Select the Draw icon  and begin to write in your rhythm pattern. When finished, press Apply. If required, you can use the Zoom controls and the bottom right hand corner of the screen.

8 Create a new blank sub-pattern; notice that you can move between patterns using the up/down arrow keys. The currently selected sub-pattern will be dark blue, non-selected sub-patterns are cyan.

9 Select and copy the first sub-pattern (Edit Copy) and paste it (Edit Paste) into the new blank sub-pattern.

10 Draw some changes on to the second sub-pattern using the Draw tool. To delete notes, first deselect the draw tool. To select a note, either click on it or hold your mouse down and drag a box around it. Once selected it will show as red. Press the Delete key! Once you are happy with changes press Apply.

Tip: You can also mutate the pattern by selecting it and pressing CTRL+M. All the underlying values of the pattern are kept (i.e. rest and notes) but they are "flipped" at random. Therefore, what you will see is long notes and short notes. As you are using Drums, the long notes will sound the same as the short notes! Using this technique can speed up the creation of drum sub-patterns in the knowledge that you will be staying with roughly the same structure. It can also give you ideas, too!

11 Repeat the process of copying, pasting an modifying an existing pattern into new sub-patterns 6 times.

12 To listen to your work press play. Note that sub-patterns will be selected to play at random from within this group, according to the probability weighting (Prob). To hear just one of the sub-patterns press the S button (Solo). This will mute out the other patterns. To listen to another press its S button. To hear them all, either depress the S button again or make sure M is off for all patterns.

13 Repeat the above process for each voice of your drum kit, which in this case includes a D040 - Snare Drum, D051 - Ride Cymbal and D046 - Open Hi Hat.

14 Select the Velocity Envelope (use F6 to toggle to the Envelope view) and adjust the balance of the kit by Nudging them Up/Down for each drum. To do this first open the Envelope Toolbar (ALT+W+E) and select the Nudge Up or Nudge Down tool. Now hold down the CTRL key and double click on the envelope to nudge it.

15 Save your piece to UDEMO1T7.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

ADDING THEM ALL TOGETHER TO CREATE YOUR OWN DEMO1

- If you want to start the piece with a drum kit we put together earlier (DEMO1T7.SKT) then select File New and use the HotJazz template. From there, open up each piece you have made (UDEMO1T1 - UDEMO1T6) and copy the voice into the piece. Voila! You should have the final piece in its glory.
- If you want to use the drum kit you made, then either add it to the Template List (but you must have saved it to an SKT - and given it a Piece Name in the Piece Details dialog) so that next time you create a piece you can base it on this; or just open the SKD file itself and copy in the other voices, as above.

Demo Piece DEMO2.SKD (special XG features)

Quick Tutorial 2 - Building the Template DEMO2T1.SKD

Rich ambient smooth pad chords

1. From File New select a "Normal Template".
2. Change the Voice Name to Film, change the patch to 98 - FX2 Soundtrack and change the Voice Type to Ambient.
3. XG only: Further modify this patch to be 98.27, create a patch list (CTRL+L) and add another patch value of 98.64 to the list.
4. Change the Pitch to 44, Pitch Range to 23, Phrase Length to 8, Phrase Length Range to 2, Phrase Gaps to 1, Phrase Gaps Range to 1 and Set Volume Step Change to Yes.
5. Select View 2 (CTRL+2), Set Ambient Units to Full Seconds, and then set Ambient Duration to 12, Ambient Duration Range to 8, Ambient Gap Minimum to 1 and Ambient Gap Range to 1.
6. Select View 7 (CTRL+7) and change the Chord Depth to 4, Chord Delay to 240 and Chord Delay Range to be 240.
7. Select View 9 (CTRL+9) and set the Reverb to 0.
8. XG only: Select View 15 (CTRL+SHIFT+5) and set Attack to 50, and Release to 50 and XG Variation Level to 35.
9. XG only: Select Piece Parameters window (ALT+G+I) and View 3 (CTRL+3) and Yamaha XG System to be On.
10. XG only: Press the Piece Initialization MIDI Command button (or tab/arrow to the cell and press Enter). Open the MIDI Book DB50VARI.TXT, select System - XG Variation - Karaoke 2 and press Add. Then Press OK to close the dialog.
11. Save your piece to UDEMO21T1.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 2 - Building the Template DEMO2T2.SKD

Rich ambient smooth pad chords

1. From File New select a "Normal Template".
2. Change the Voice Name to Sine, change the patch to 81 - Lead Square and change the Voice Type to Fixed Pattern.
3. XG only: Further modify this patch to be 81.66.
4. Change the Pitch to 24, Phrase Length to 6, Phrase Length Range to 0, Phrase Note Rest % to 10, Phrase Gaps to 0, Phrase Gaps Range to 0 and Set Volume Step Change to Yes.
5. Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell containing the  button and press Enter.
6. You can either add your own pattern or import the pattern (which we had already exported as a MIDI file). To import it press the Import Button and select SINE1.MID from the examples directory. Set the Use Root to C1 and Scale Rule to be Dorian. Press the Extract Selection button, then press Apply and then press Close.
7. Close the Pattern Editor with CRTL+F4 (this will also ask if you want to save changes to the file).

8 Change the Mutation Factor to 15 and Mutate No. Bars to 4.

9 Select View 9 (CTRL+9) and set the Reverb and Chorus to 0.

10 XG only: Select View 15 (CTRL+SHIFT+5) and set XG Variation Level to 35.

11 XG only: Select Piece Parameters window (ALT+G+I) and View 3 (CTRL+3) and Yamaha XG System to be On.

12 XG only: Press the Piece Initialization MIDI Command button (or tab/arrow to the cell and press Enter). Open the MIDI Book DB50VARI.TXT, select System - XG Variation - Karaoke 2 and press Add. Then Press OK to close the dialog.

13 Save your piece to UDEMO21T2.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 3 - Building the Template DEMO2T3.SKD

Simple and effective Bass Riff

1 From File New select a "Normal Template".

2 Change the Voice Name to Bass, change the patch to 81 - Lead Square and change the Voice Type to Fixed Pattern.

3 XG only: Further modify this patch to be 81.66.

4 Change the Pitch to 12, Phrase Length to 9, Phrase Length Range to 3, Phrase Note Rest % to 3, Phrase Gaps to 3, Phrase Gaps Range to 2 and Set Volume Step Change to Yes.

5 Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell containing the  button and press Enter.

6 You can either add your own pattern or import the pattern (which we had already exported as a MIDI file). To import it press the Import Button and select BASS1.MID from the examples directory. Set the Use Root to G0 and Scale Rule to be Dorian. Press the Extract Selection button, then press Apply and then press Close.

7 Close the Pattern Editor with CRTL+F4 (this will also ask if you want to save changes to the file).

8 Select View 9 (CTRL+9) and set the Reverb and Chorus to 0.

9 XG only: Select View 15 (CTRL+SHIFT+5) and set XG Variation Level to 35.

10 XG only: Select Piece Parameters window (ALT+G+I) and View 3 (CTRL+3) and Yamaha XG System to be On.

11 XG only: Press the Piece Initialization MIDI Command button (or tab/arrow to the cell and press Enter). Open the MIDI Book DB50VARI.TXT, select System - XG Variation - Karaoke 2 and press Add. Then Press OK to close the dialog.

12 Save your piece to UDEMO2T3.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

Quick Tutorial 4 - Building the Template DEMO2T4.SKD

Rave Drum Kit with sequencing

1 From File New select a "Normal Template".

2 Change the Voice Name to Rave 1, change the patch to D035 Kick Drum and change the Voice Type to Fixed Pattern.

3 Select View 5 (CTRL+5) and then open the Pattern Editor (ALT+G+A) or tab to the cell containing the  button and press Enter.

4 You can either add your own pattern(s) or import the pattern(s) (which we have already conveniently exported as a MIDI file for you). We are assuming in this example that you will use the MIDI patterns for speed.

5 Press the Import Button (or select ALT+E+I) and select RAVED1A.MID from the examples directory. Press the Extract Selection button, then press Apply and then press Close.

6 Create another blank sub-pattern by pressing the Create button. Use the up/down arrow keys to select it (you should not then have any existing pattern displaying in dark blue).

7 Press the Import Button (or select ALT+E+I) and select RAVED1B.MID from the examples directory. Press the Extract Selection button, then press Apply and then press Close.

8 Create another blank sub-pattern by pressing the Create button. Use the up/down arrow keys to select it (you should not then have any existing pattern displaying in dark blue).

9 Press the Import Button (or select ALT+E+I) and select RAVED1C.MID from the examples directory. Press the Extract Selection button, then press Apply and then press Close.

10 You will now have 3 sub-patterns in the display. Press the Apply button.

11 Press the  button to select the Sequence Editor.

12 Press  to create a blank sequence.

13 Add another 3 sub-sequences by double-clicking in a blank cell to the right of the last sequence.

14 Double click in the first cell to bring up the sequence event dialog. Enter Pattern From 1 To 1 and Iteration From 7 to 7 and press OK.

15 Do the same for the following cells as follows: Second cell - Pattern From 2 To 2, and Iteration From 1 to 1; Third cell - Pattern From 1 To 1, and Iteration From 7 to 7; Fourth cell - Pattern From 3 To 3, and Iteration From 1 to 1.

16 Press Apply and close the Pattern Editor.

17 Add a new voice to the piece, change the Voice Name to Rave 2, change the patch to D046 Open Hi Hat and change the Voice Type to Fixed Pattern.

18 Select View 5 (CTRL+5) and open the Pattern Editor (ALT+G+A).

19 Press the Import Button (or select ALT+E+I) and select RAVED2A.MID from the examples directory. Press the Extract Selection button, then press Apply and then press Close.

20 Create another blank sub-pattern by pressing the Create button.

21 You will now have 2 sub-patterns in the display (one of them blank). Press the Apply button.

22 Press the  button to select the Sequence Editor.

23 Press  to create a blank sequence.

24 Add another sub-sequence by double-clicking in a blank cell.

25 Double click in the first cell to bring up the sequence event dialog. Enter Pattern From 1 To 1 and Iteration From 8 to 8 and press OK.

26 Do the same for the second cell and make it Pattern From 2 To 2, and Iteration From 8 to 8.

27 Press Apply and close the Pattern Editor.

28 Add a new voice to the piece, change the Voice Name to Rave 3, change the patch to D042 Closed Hi Hat and change the Voice Type to Fixed Pattern.

29 Select View 5 (CTRL+5) and open the Pattern Editor (ALT+G+A).

30 Press the Import Button (or select ALT+E+I) and select RAVED3A.MID from the examples directory. Press the Extract Selection button, then press Apply and then press Close.

31 Press the  button to select the Sequence Editor.

32 Press  to create a blank sequence.

33 Add another sub-sequence by double-clicking in a blank cell.

34 Double click in the first cell to bring up the sequence event dialog. Enter Pattern From 1 To 1 and Iteration From 8 to 8 and press OK.

35 Do the same for the second cell and make it Pattern From 2 To 2, and Iteration From 8 to 8.

36 Press Apply and close the Pattern Editor.

37 Select View 9 (CTRL+9) and set the Reverb and Chorus to 0 for all voices.

38 XG only: Select View 15 (CTRL+SHIFT+5) and set XG Variation Level to 35 for all voices.

39 XG only: Select Piece Parameters window (ALT+G+I) and View 3 (CTRL+3) and Yamaha XG System to be On.

40 XG only: Press the Piece Initialization MIDI Command button (or tab/arrow to the cell and press Enter). Open the MIDI Book DB50VARI.TXT, select System - XG Variation - Karaoke 2 and press Add. Then Press OK to close the dialog.

41 Save your piece to UDEMO2T4.SKD (it can be saved to a template by Save As File, Type Template, and change the extension to be SKT).

ADDING THEM ALL TOGETHER TO CREATE YOUR OWN DEMO2

- Open up each piece you have made (UDEMO2T1 - UDEMO2T4) and copy the voice into the piece. Voila! You should have the final piece in its glory.

Further Examples and Demos - How To?

These are abbreviated "How To" examples and assume a working understanding of SSEYO Koan Pro and its views and interface; if you require a bit more step through detail, take a lool at the Quick Tutorials.

1 **Making recycled SoundFont drum kits - RECYCLE.SKD**
2 **Creating a bass riff with mutating patterns - MUTATE.SKD**
3 **Creating a voice with LFO pitch filtering featuring User Controllers - MIDI.SKD**
4 **Creating a voice that uses the powerful Micro Controllers - MICRO.SKD**
5 **Making a voice that uses lists as the piece plays - PATCH.SKD**
6 **Creating and Ambient voice with unique rules - AMBIENT.SKD**
7 **Creating a voice using following and delays - FOLLOW.SKD**
8 **Creating a rhythmic voice with special Next Note rule and auto-chording - RHYTHM.SKD**
9 **Creating a General MIDI drum kit -See the drum templates!**

1 - Recycled Soundfont voice - RECYCLE.SKD

Making recycled SoundFont drum kits (from original sample provided by Time and Space)

1 'File New' Select 'Normal' template.

2 'Voice type' to Fixed Pattern.

3 Set 'Patch Name' to 002.044 70S115.SF2 [see patch parameter/ Edit Instrument Control].

4 Give the voice and piece a name.

Tip It's a good idea to get into the habit of naming files/pieces/templates at the start.

5 Launch the 'Pattern editor' with ALT+G+A.

6 Press the 'Import' button.

7 Select '70s115.mid' and press OK.

8 Set no. bars to '2'.

9 Set the 'Import Pattern Style' to 'Forced Frequency Relative to Root'.

10 For this example you'll need to select the 'Quantize Semiquavers' button.

11 Press the 'Extract Pattern' button [you should see the pattern string in the 'Extracted Pattern' display].

12 Press 'Apply'.

13 Press 'Close'.

14 Set 'Octv' to '4.'

15 Press 'Apply'.

16 Close the 'Pattern Editor'.

17 Press Play.

Tip Set 'Harmonize?' to 'No'

2 - Pattern Mutation - MUTATE.SKD

Creating a bass riff with mutating patterns

1 Open the piece 'MUTATE1.SKD' - for the purpose of the tutorial we'll start from a given 'Fixed Pattern'.

2 Launch the Pattern Editor to study the pattern.
Tip Analyze the make up of the pattern. In our example we have a 6 note semiquaver pattern spread over 2 bars The intervals between each note are 0ve m2 m7.

Creating rules pertaining to our example pattern

3 Open the Rhythm rule window and create a new rule only using 16th notes [semiquavers].

4 Name this rule '16ths'.

5 Select View 8 - Voice Rules.

6 Select '16ths' rule in the 'Rhythm Rules' cell.

7 Open the Next Note Rules window and create a new rule using high probabilities of Ove m2 m7 [deduced from our study of the example pattern].

8 Name this rule 'mutate'.

9 Select View 8 - Voice Rules.

10 Select 'mutate' rule in the 'Next Note Rules' cell.

The next stage is to approximate the phrasing of our pattern
Use this equation: There are 32 notes in a 2 bar pattern of 4/4 time. As each note is 1 1/16th note (semiquaver) long we have a phrase length of 6 [because our rhythm rule is set to 16ths only].

11 Select View 1 - Rhythmic parameters.

12 Set Phrase length to 6.

13 Set Phrase length range to 6 (notes above the minimum to be added).

14 Set Phrase Gaps to 0.

15 Set Phrase Gaps Range to 20 (amount of rests needed to limit pattern to a 32 note semiquaver pattern).

16 Select View 5 - Fixed Pattern parameters.

17 Set 'Mutation Factor' to '20'.

18 Set 'Mutation No.Bars' to '8'.

19 Press play. Try changing the Mutation factor and Mutate No. Bars parameters.

3 - User Controllers/ MIDI Commands - MIDI.SKD

Creating a voice with LFO pitch filtering featuring User Controllers

Note This example is AWE specific, but the same technique can also be applied to XG cards.

1 Open 'MIDI1.SKD' template.

2 Select View 11 - Midi Commands.

3 Click on the 'User Controller 1 Midi Command' button which launched a User Controller Dialog box.

4 Press the MIDI Book button and select AWE32MID.TXT.

5 Select 'AWE32 Pitch Filter Cut Off' by clicking in the box.

6 Press 'Add' and the MIDI command will appear in the MIDI Command String Box.

7 Press O.K. button.

8 Select the 'User Controller 1 Mode'.

9 Select setting 2-LFO [Max-Min-Max] by clicking through the options.

10 Set 'User Controller 1 Minimum' parameter and set it to '10'.

11 Set 'User Controller 1 Range' cell to '117'.

12 Set 'User Controller 1 Beat Cycle Length cell to 960 (960=4 bars, this means it takes 4 bars to complete one cycle).

13 Press Play.

4 - Micro Controllers - MICRO.SKD

Creating a voice that uses the powerful Micro Controllers

1 Open 'MICRO1.SKD'.

2 Select View 10 - Micro controllers.

3 Press play, you should hear a 4 bar drone playing.

4 Set ‘Micro Pitch Range’ to 1000 [=semitone].

5 Set ‘Micro Pitch Change’ to 1000.

6 Set ‘Micro Pitch Update to 10.

7 Set ‘Micro Pitch Update Range to 400.

5 - Patch Lists - LIST.SKD

Making a voice that uses lists and changes as the piece plays

1 ‘File New’ Select ‘Normal’ template.

2 Give the voice and piece a name.

3 Click on the ‘Patch’ cell with right hand mouse button.

4 Select Lists from the menu to open the ‘Edit Parameter list’ dialog box.

5 Click on the ‘Add Random’ button twice - you should now have three voice selections in the list.

6 Close the dialog box.

7 Try stopping and starting the voice. You’ll notice Koan randomly selecting from the list each time the piece begins.

To select different patches as the piece is playing

8 Select View 2 - Ambient parameters.

9 Change ‘Patch Change Bars to ‘1’ This causes the SKME to select a new patch [from the given list] every bar.

10 Change ‘Patch Change Bars Range’ to ‘3’ to give some variety as to how often the patch changes.

11 Press Play. The voice can change patch between every 1 to 4 bars.

You can use lists on any parameter in Koan

12 Select View 1 - Rhythmic parameters.

13 Click on the ‘Pitch’ cell with the right hand mouse buttom.

14 Select Lists from the menu to open the ‘Edit Parameter list’ dialog box.

15 Click on the ‘Add’ button.

16 Highlight the new cell and write in ‘46’ [1 octave above ‘33’].

17 Close the ‘Edit Parameter list’ dialog box.

18 Press Play. Try stopping and starting the voice. Again you’ll notice Koan randomly selecting from the list each time the piece begins.

6 - Ambient Voice - AMBIENT.SKD

Creating and Ambient voice with unique rules

1 ‘File New’ Select ‘Normal’ template.

2 Give the voice and piece a name.

3 Change ‘Voice Type’ to ‘Ambient’.

4 Press Play.

5 Click in the 'Patch' cell, and use the drop down combo box to select 090 - Pad 2.

6 Select View 1 - Rythmic parameters and change 'Pitch' to '46'.

7 Select View 2 - Ambient parameters.

8 Change 'Ambient Units to 'Full seconds'.

9 Change 'Ambient Duration' to '2' [seconds].

10 Change 'Ambient Duration Range' to '6' [seconds].

11 Change 'Ambient Gap Minimum' to '1' [second].

12 Change 'Ambient Gap Range' to '1' [second].

13 Select View 8 - Voice Rules.

14 Select any available rule (e.g. Lydian if present) in the 'Scale Rule' cell.

Using Phrase Length/Phrase Gap parameters to control Ambient Duration and Gap values

15 Select View 1 - Rhythmic parameters.

16 Change Phrase Length to 4.

17 Change Phrase Length Range to 4.

18 Change Phrase Gap to 1.

19 Change Phrase Gap range to 7.

Defining a 'Next Note Rule' to control the voice's note selection.

20 Open the 'Next Note Rule' window.

21 Create a new rule (CTRL + A) and name it as 'Ambient'.

22 Change the rule values to m2 and M2 only (use left mouse to select and drag them up/down).

23 Close rule window.

24 Select 'Ambient' rule in the 'Next Note Rule' cell (View 8).

7 - Following voice FOLLOW.SKD

Creating a voice using following and delays

Note Since a 'Following' voice type needs a 'feed' voice, use AMBIENT1.SKD above as our starting point.

1 Double click on the empty cell below the feed voice to create a new default voice.

2 Name voice as appropriate.

3 Select View 8 - Voice Rules.

4 Specify Rules as required, for this example you'll need to set Scale to the default rule 'New Rule 1'.

5 Set 'Voice type' to 'Follows'.

6 Select View 3 - Follows parameters.

7 Select 'Follows Named Voice' to 'Ambient'.

8 Change Patch to '017 Hammond Organ'.

9 Press Play.

To create a following voice delay

10 Set 'Follow Delay Units' to 'Beats (60^{th} of a)'.

12 Set 'Follow Delay' to '120'.

13 Press Play. You can now hear the following voice delayed by two quarter notes.

14 Select 'Follow Delay Range' and set to '120'. This means the following voice delay can drift between two and four quarter notes.

15 Change the 'Follow Strategy to 'Interval Within Scale Rule'.

Note This has the effect of copying the note pitch of a 'Feed' voice exactly. This can be useful for repeating musical phrases and layering/thickening patches.

16 Finally, change the patch to 90 - Pad 2.

8 - Rhythmic Voice - RHYTHM.SKD

Creating a rhythmic voice with special Next Note rule and auto-chording

1 File New' Select 'Normal' template.

2 Give the voice and piece a name.

3 Click in the 'Patch' cell and select 044 Contrabass.

4 Press Play.

5 Open the 'Rhythm Rules' window.

6 Change 'Values': turn off 1/16 1/8 1/8. ¼ and turn on ½.

7 Change 'Pitch'value to 46.

8 Change Phrase Length to 1.

9 Change Phrase Length Range to 4.

10 Change Phrase Gap to 0.

11 Change Phrase Gap range to 1.

12 Select View 7 - Chording parameters.

13 Set Chord Depth to 2.

14 Set 'Chord Pitch Offset' to '13'.

Changing the 'Next Note Rules'

15 Press Play.

16 Open the 'Next Note Rules' window.

17 Using the left mouse button, turn off all of the 'Interval Probabilitys' except the M2: you can now hear the nature of the voice change as we have limited the voice to just M2 intervals. Try adjusting the probabilitys of the intervals to find pleasing note fits.

18 Name your new rule 'rhythmic 1'.

19 Close the 'Next Note Rules' window.

Tip Personalizing the 'Next Note' and 'Rhythmn' rules is key to creating interesting 'Rhythmic' voices.

20 Select View 8 - Voice Rules.

21 Set the Next Note Rules cell to our new rule 'rhythmic 1'.

Tip If you create a piece in which you use multiples of voices using individual 'rules', you will need to specify the rule the voice requires at voice level, i.e. in this window (View 8 - Voice Rules).

9 - GM Drum Kit

Creating a General MIDI drum kit

1 'File New' Select 'Normal' template.

2 Change 'Voice type' to Fixed Pattern.

3 Give the voice and piece a name.

4 Set 'Patch' to D036 Kick Drum 1

5 Set 'MIDI Channel' to '10'.

6 Select View 8 - Voice Rules and set Harmonize to 'No'.

7 Launch the 'Pattern Editor'; you should see the 'Rhythmic' editor display.

8 Select the 'Draw' Icon and begin to write in your sub-pattern using the mouse.

9 Having written your rhythm press 'Apply'.

Creating Sub-patterns

10 Create a new sub-pattern (which will be a copy of the currently selected pattern).

11 Try drawing some changes to the 2nd sub-pattern using the mouse.

12 Once you are happy with your new sub-pattern, repeat the process.

Tip You can also copy and paste sub-patterns.

13 Once you are happy with the voice press the 'Apply' button and close the Pattern Editor.

14 Repeat the process for each voice of your GM Drum kit.

Using 'Following Voice Type' and 'Copying' voices to create cymbal effects.

15 Double click on the empty cell below the 1st voice to create a new default voice (or press CTRL + A).

16 Select D046 Open Hihat in the Patch cell.

17 Set Midi Channel to 10.

18 Because the 'default voice' is set to Harmonise 'Yes', remember to set to 'No' (View 8).

19 Change voice type to 'Following' voice.

20 Select View 3 - Follows parameters.

21 Select GMDrum 1 in the 'Follow Named Voice' cell.

22 Press Play, you'll hear the Open Hi-Hat voice following the Bass Drum.

23 Using the left hand mouse button click on the 'GMDrum' voice, and select Edit Copy.

24 Select the empty cell below and select Edit Paste to create a copy of the voice.

25 Select D046 - Open HiHat in the Patch cell of the new voice.

26 Press Play.

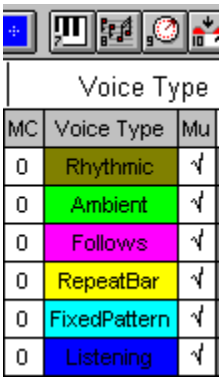
Note In this system the beats may not play together as each voices sub-pattern is choosen by the engine, and so may not play together. Refer to sequencing of patterns for this (and there are examples in the Quick Tutorials).

See also

Templates

Chapter 4 - Yet More to Know About!

Voice Types



The Voice Type is one of the key parameters available for you to select. Each voice can have only one Voice Type defined (but lists are also supported), but you can still edit any of the piece parameters for the other Voice Types, even though they will have no effect until you change the Voice Type to the appropriate one (please refer to the Voice Type table for a quick lookup of which parameter is effective for which Voice Type). The Voice Types are all changeable in real time and are as follows:

Rhythmic

A Rhythmic Voice Type means that the notes played by the voice will be governed by the current Rhythm rule (look at some of the demo files for examples). The voice will also compose according to the Scale, Harmony and Next Note rules and is primarily governed by the Phrase Length and Phrase Gap parameters, defined in the Rhythmic Parameter Group.

See Rhythm Rule

Rhythmic Parameter Group

Ambient

The Ambient Voice Type allows you to have notes/events that play for a long time (or a very short time), and can thus be used to create 'drone' like sounds (long notes) or 'burbling' sounds (short notes). The way that Voices of this type works is governed by the various Ambient parameters.

See Ambient Parameters

Follows

This is a very powerful voice type enabling one voice to 'follow' another - that is, to play notes based on or harmonized with a 'lead' voice. The way the voice follows the lead voice (selected in the Follow Voice parameter) is determined by the various Follows parameters.

See Follows Parameters

RepeatBar

A Voice of this type will 'look back' at previously played notes over a specified number of bars and either repeat them in their entirety or repeat a certain amount of their information. It can even repeat notes from other voices.

See Repeat Bar History

Repeat Bars %

FixedPattern

With the FixedPattern Voice Type you can force a voice to play musical phrases; it is a bit like using a 'seed' pattern. You can create patterns with the Pattern Editor and your mouse or you can use it to import phrases from existing MIDI files. The FixedPattern Voice Type is very powerful and is often used to create drum patterns or other types of pieces where you want to use a pre-defined melodic theme. Patterns can be based on the current Scale Rule intervals so you can change the melodies simply by changing the Scale rule used by the voice, or they can be forced to use a 12 tone scale for use with recycled SoundFonts (for breakbeats). Patterns can be modified with the Mutation parameter allowing the pattern to 'mutate' over time, allowing beautiful freewheeling pieces. You can specify the following information in the pattern:

Either:

The note pitch (in intervals), or;
The note duration, or;
Both the note pitch and the note duration

See Patterns

Pattern Bars %

Listening

Listening Voices are a new Voice type introduced for SSEYO Koan Pro 2. They enable the SSEYO Koan Pro user to construct what is effectively a generative hyper-instrument, which combines musical inputs from an external MIDI controller, with the power of the SKME.

Listening Voices may be set-up to listen to ranges of MIDI notes on various MIDI lines, and other voices (such as Following Voices) may be set-up to respond to those voices. Listening voices may be used (of course) in conjunction with all the other Koan voice types.

See Listening Voice parameters

See also

Parameter Utilisation Guide
Forcing a voice to play
Scratch mixing

Templates and Creating a Template List

In SSEYO Koan terminology 'templates' are the building blocks that can be used you to help build up your pieces. They are voices (or groups of voices) that have been set up previously (by you or another artist) and saved to an SKT or SKD file. They could be drum patterns, melodic phrases, or even completely custom generative voices. Naturally, you do not have to start with templates when creating a piece, but sometimes they can be useful. SSEYO Koan X uses templates extensively in its drag 'n' mix approach.

Within SSEYO Koan Pro

A number of template files are provided in SSEYO Koan Pro so that you can quickly construct pieces, either by using them as the basis for a new piece or copying voices from them to a new piece. Some of the SSEYO Koan Template files (.SKT) are Rhythmic templates containing complete drum patterns, others are basic starting points perfect for creating pieces with certain 'moods'. You can create and save your own template files and you can select which templates you want to see using the Create Template List dialog (see below), found under the File, Create Template List menu item. All standard templates can be found in the TEMPLATE directory but you can save yours anywhere.

The Rhythmic templates supplied with SSEYO Koan Pro are generally identified in the file name as R_XXXXXX.SKT, where XXXXXX can be any text, but you can give any name you want for the template description, which is what you will see when wish to use a template.

Using templates

To use a Template, simply select File New and choose one from the list presented (or you can modify this list for next time with the Create Template List dialog below). Note that you can create a new piece based on a randomized version of a template, by pressing the "Randomized" button; see Randomization and Mutation for more information on the Randomization options.

You can also open a Template file, select the voice and **copy/paste** it to another open piece. Alternatively, if you have SSEYO Koan X Gold/Platinum, you can use it to pull together/mix a starting point for your piece and then save it to an SKD - which you can then open in SSEYO Koan Pro for further editing.

To save a modified template or even a new one just select File Save As, and choose the .SKT file type and give the file the name XXXXXXXX.SKT. Template files (SKT) are just like normal pieces (SKD), so there are no restrictions on what you can do with them.

Create Template List dialog

To create your own custom list of templates which display when you select File New, select the Create Template List from the File menu. You will be presented with a dialog where you can add or remove templates from this list.

To add a template to the list select it and press the add button. You can add templates from multiple directories, which you can locate with the Directories and Drives listboxes.

To remove a template from the list select it and press the remove button. Removing templates will not remove the templates from your computer, but only from the template list itself. The active template list is stored in your KOANPRO.INI file.

See also

How To Create Templates For Koan X
Creating Protected SKT files
Quick Start - Playing the Demo Pieces
Quick Start - Creating a Complete Piece
Quick Tutorial - Building the Demo Templates/Pieces
Templates

Scratch Mixing

Use the ALT+0 to 9 key combination to move to that percentage position (9 = 90%) through the piece. The way the SKME works means you will hear no 'jumping' or discontinuities in the

piece (unless the volumes of the section are different or you have a slow machine - see Setting up SSEYO Koan Pro) and composition will continue smoothly. This feature is really great for when you want to mix a piece as you are recording it, or even just for the fun of doing it.

See also

Forcing a voice to play
Piece marker
Apply Current Envelope Mix - Current Envelope
Apply Current Envelope Mix - All Envelopes in Column

Forcing Voices to Play or Stop Playing

Use this when you want to hear a voice play a note at your command. The note chosen to be played by the SKME will follow the rules used by the voice (Harmony, Scale, Next Note and Rhythm) so it will harmonize with all the other voices and fit as if the voice were playing normally. This feature is very useful when setting up pieces and hearing what a patch will sound like within the context of the piece. It can also be used for scratch mixing a piece (in conjunction with the ALT + 0 through 9 keystrokes to move the piece marker to various % positions in the piece). One example of this would be where you have created a number of ambient voices and you want to trigger them one at a time. Even though you may have forced a note to play, the voice will continue to compose as normal, so when another note is due to be played it will take over and stop the note you have forced. To force a note to play press CTRL + SPACEBAR. To stop it playing press ALT + SPACEBAR.

See also

Scratch mixing

Lists - Adding Entries and Modifying

Lists are a fundamental and important feature of SSEYO Koan Pro. A 'list' in SSEYO Koan Pro terms is a list of different values that a parameter can take, already defined by you, and these are stored in the piece. Each and every parameter in SSEYO Koan Pro can have a list of values associated with it. When a piece plays it will randomly select a value for the parameter from this list, and this parameter value (it could be a patch for instance) will be used for the duration of the piece (see exceptions, below). This allows a tremendous degree of freedom for a piece of SSEYO Koan music, as a piece need never use the same parameter values or patches.

For example, a list of patches could be defined for a voice. When the piece plays, the voice will select one patch to play from a list of many. The SKME chooses which patch to play for each voice every time the piece is played. If there is only one patch in the list the choice is easy! If there a number of patches in the list, it chooses one at random.

Exceptions:

The **Patch Change Bars** parameter allows you to set up a voice so that it can automatically change its patch at various times during the piece.

The **Patterns parameter** can accept a list of patterns and each time it reaches the end of a particular pattern (from within a pattern group) it will choose another from within the pattern group.

Creating a list

To create or edit a list either click on the item with your right mouse button, select Edit Lists from the menu or press CTRL+L.

Adding to a list

Press the Add button to add a new item which can then be edited in the normal way. Use the copy and paste buttons to quickly duplicate a number of values. Press the Add Random button to add a new Random Parameter value.

Tip To instantly change the parameter value used by a playing piece, highlight the appropriate value in the list and press Apply.

Tip You may want SSEYO Koan Pro to choose say one particular value in the list 9 times out of 10. Do this by having 9 occurrences of this value and one occurrence of another.

See also

Save Snapshot of List Values

Micro Controllers Overview

SSEYO Koan Pro provides the facility of 'micro control' to deliver really subtle changes of a number of parameters, mimicking the effect that nothing is ever really fixed - especially when it comes to sound. Through these controls, continuous micro-level changes of an voice's pitch, volume and modulation can be achieved, and also changes to when notes play (not every musician can play exactly on the beat to the nearest millisecond). In the form of User Micro Controllers they can also be used, cunningly, to provide internal software "oscillators" to affect various MIDI controllers in real time - perfect for modern dance music!!.

The Micro Controller values - Change, Range, Offset, Update

The way these micro controllers work is to allow a random change of certain selected parameter values over time, mentioned above. The amount that these micro controllers allow the parameters to change is governed by the '**Change**' parameter associated with the micro controller. This controller acts like a 'random walk', in that the amount the parameter can vary each time it changes is somewhere between 0 and the Change value - and the value to use is selected at randomly from within this range. The maximum deviation allowed from the original parameter value is governed by the associated '**Range**' controllers. These act like a wall beyond which the parameter will not vary. A number of the micro controllers have '**Offsets**'. This value determines how far from the original parameter value the micro controllers will consider the base line value about which it will work, e.g., the Micro Note Delay offset will determine how much 'shift' is applied to notes played, just like playing in advance of or behind the beat. The final setting available for some of them is the '**Update**' value. This determines how often the micro controller will cause the parameter value to change (or be updated).

See also

Micro Controllers View 10
User Micro Controllers View 11

Polyphony and The Drum Set

Polyphony - playing of multiple instruments at the same time (concurrently).

All soundcards support different levels of Polyphony (generally reaching up to around 32 concurrent voices), but Windows 3.1 puts a limit on how many MIDI channels can be triggered simultaneously, this being 16; 15 of which are Melodic MIDI lines, and the other 1 of which is reserved for Percussion / Drum instruments.

In general, SSEYO Koan Pro allocates each Voice to a separate MIDI channel. This is because according to the MIDI standard, only one patch (or instrument) may be played on any given MIDI line. This means that for Melodic voices with *different melodic* instruments, it can only play using 15 different melodic instruments at once (in addition to a number of drum instruments on the MIDI Drum line).

However, when either Different Voices share the same MIDI line and instrument, or when voices are set-up to Auto Chord, you will actually be able to use voices to play many notes (using the same instrument / patch) on the *same* MIDI channel/part, and therefore play more than 16 notes at the same time. The actual limit is up to the polyphony limit of your card (e.g. 24 simultaneous notes on the Roland SCC1 or 32 on the Creative Labs AWE32/AWE63/SB32/SB64). This means you do not have to be restricted to playing only 16 concurrent notes when exploiting the full polyphonic nature of your soundcard.

The Drum Set

The Drum Set can be seen as being similar to an instrument patch. Each MIDI note sent by SSEYO Koan Pro to your soundcard via whatever MIDI channel will contain frequency information. When your Voice uses an instrument patch the notes played will be of the same timbre, but different pitch; for the Drum Set the frequency information is still sent, but instead of each note having a different pitch, it represents a different sound (drums in MIDI have no pitch information). ALL voices will use the same Drum Set, which is defined at the piece level. The Drum Set channel is always on MIDI channel 10 (standard MIDI value generally reserved for drums). So, if you have many voices using drums, each one counts as sharing the same instrument patch and so you can share a MIDI channel. As you could quite easily use 10 drum sounds at once, if your soundcard is 24 note polyphonic it leaves you another 14 to play with.

Drum sounds are those instruments which begin with a D in the Instrument patch list (e.g. D042 - Closed High Hat). When SSEYO Koan Pro is given free choice (i.e. you have not forced the MIDI channel to be a specific value and so it shows as 0) instruments which are not drums sounds will be allocated automatically to MIDI channels 1-9 or 11-16. Instruments which are Drum sounds will automatically allocated to MIDI channel 10.

Look in you soundcard manual to see what drum sets are available from your card.

Instruments and Drum Sets

Note that Piece-level Drum Set parameter values of 0 and 1 are basically ignored (they are the DEFAULT drum kit). The drum set parameter is used to supply a default drum bank, for a Drum Instrument for which you do not *specify* a bank (e.g. D53.4 - which would play drum 53 from bank 4). If you specified just D53, but set the drum set to 4, then those drums (including D53) which did not have a specific bank (drum kit) specified, would be played from bank(kit) 4.

A drum set value of 0 or 1 is basically ignored by the SKME; both represent the standard drum kit. The available range of values is 0 to 128 (128 is the top kit bank) - even though a value of 0 is basically ignored, just like a value of 1.

Just to make things a little confusing, MIDI Drum Sets/Kits map onto actual MIDI bank numbers, offset by 1. All depending on how your soundcard / synth manufacturer documents things !

Drum Set / Kit—True MIDI bank number (as used by SSEYO Koan Pro patches)

1	0
2	1
……	
127	126
128	127

So - to refer to Drum 28, Bank 25; you could set the voice Instrument parameter to be D28.25. Alternatively, you could set the voice instrument to D28, and the piece Drum Set (or kit) to be 26. Confusing, but there you go !

Also - if you have any one drum patch from any one bank, then it is quite possible that all other drum sounds will be played from that bank. It all depends on your soundcard... !

Note that for certain soundcards, such as the Yamaha DB50XG when using the TG300B mode (i.e. the Yamaha XG System On piece-level parameter is not set to yes), then the drum bank select messages seem to confuse the soundcard, and the bank select message will not work. So - you cannot select drum banks for the TG300B (though you *can* use drum banks for the XG kits - just set Yamaha XG System On to Yes). This is all very strange - the AWE32/AWE64/SB32/SB64 drums (from SoundFont banks) and XG drums (from XG drum banks) both *expect* these bank select messages ! We would hope to address this problem in future releases of the software.

See also

Drum Set
MIDI Channel
Instrument

MASTER.SKT

The MASTER.SKT file is a special file that resides in the same directory as your SSEYO Koan Pro installation. It is only ever used if you happen to delete all your templates and it works just like a template; it is like a 'reserve tank' so to speak. Should you wish, you can load this file, change it as you would any other SKD or SKT file and then save it again. Change this with care!

Saving a Snapshot of List Values

Save Snapshot of List Values Command (File Menu)

This option allows you to save the current piece such that all listed parameter values that are not currently selected are deleted, before saving the file.

Tip : This parameter is used primarily where you have created a random file, with a large number of list entries, and you have been playing the file to find a combination that you particularly like. Use this command when you have reached such a point. **Warning** : all non-current parameter values in the current piece will be lost ! You may find you wish to save the piece first and then save the snapshot to a new piece name, so as not to lose the original.

Creating a Text File Listing

Create Text File Listing Command (File Menu)

You can use this command to create a text file, which contains a textual listing of the contents of your current file. Note that there is no way to re-import the text file back into SSEYO Koan Pro.

Tip : You might find this command useful for comparing various versions of a piece to more easily spot the differences.

Using Default Parameter Settings

Default Parameter (Edit Menu)

This command causes the currently selected parameter to be reset to it's default value (an internal default used by the SKME).

Special Case : For the Volume envelope parameter, this will be create a volume envelope which is ramped at both the beginning and end of the envelope.

Using Default Column Settings

Default Column (Edit Menu)

This command causes all parameters in the currently selected column to be reset to their default values.

Using Default Parameter Group/Row Settings

Default Parameter Group/Row (Edit Menu)

This command causes all parameters in the currently selected group / row to be reset to their default values.

Applying Current Envelope Mix to Current Envelope

Apply Current Envelope Mix - Current Envelope (Edit Menu)

This command causes the currently selected envelope, to be set to it's currently playing level. The effect is to cause the envelope to become "flat" using the current level.

Tip : Use this command when you are playing a randomly mixed piece, and you find a mix point in the piece that you really like; selecting this command for the velocity and volume envelopes, will cause the current voice to be played at the current mix levels.

Applying Current Envelope Mix to All Envelopes in Column

Apply Current Envelope Mix - All Envelopes in Column (Edit Menu)

This command causes every envelope in the currently selected column of envelopes to be set to its currently playing level. The effect is to cause each envelope to become "flat" using the current levels.

Tip : Use this command when you are playing a randomly mixed piece, and you find a mix point in the piece that you really like; selecting this command for the velocity and volume envelopes, will cause the entire piece to be played at the current mix levels.

Chapter 5 - Randomization and Mutation

Randomization and Mutation

Tip : Use the randomization and mutation features in SSEYO Koan Pro 2 to rapidly generate new musical ideas ! Create entire new random pieces, or new random voices or rules; or new random parameter values, or new patterns; or mutate existing values !

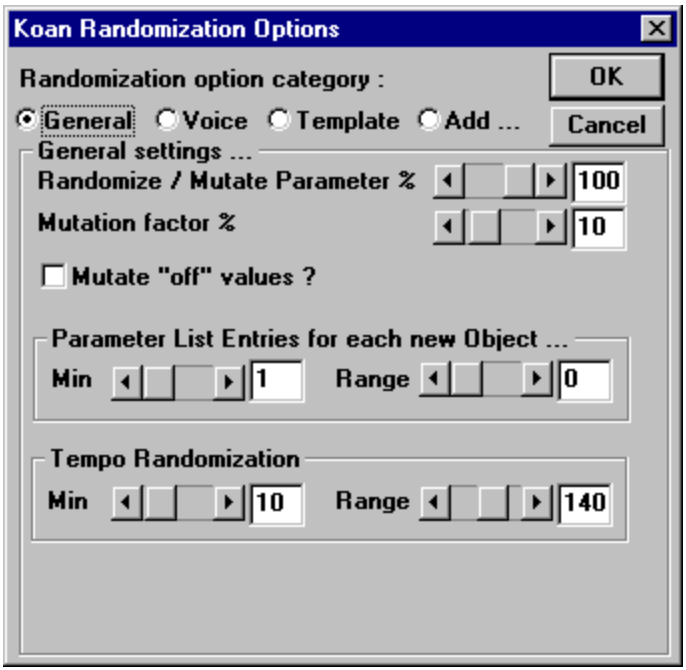
Koan Randomization Options dialog

This dialog determines what level of randomization or mutation is applied to parameters when you use randomization/mutation.

Note The only area where these settings do not apply when randomizing/mutating , is when you are doing this from within the Pattern Editor, in which case built-in default settings apply.

- To open it, Select Options Randomization from the menu
- Select one of the randomization categories: General / Voice / Template / Add

General



This is where you define your general randomization / mutation preferences.

“Randomize / Mutate Parameter %”

The number of parameters to randomize or mutate, whenever you randomize an existing object. (See the “Template” group).

“Mutation factor %”

Defines the amount to mutate a parameter by, whenever that parameter is mutated. 0 means no mutation, 100 means maximum variation (i.e. totally freedom). values of between 1 and 10 are often the most useful.

“Mutate “”off”” values ?”

Whether or not values that are currently “off”, can be mutated on. Very useful to set this off (i.e. unchecked), when mutating e.g. group 12; AWE controller values. Prevents very weird mutation effects !

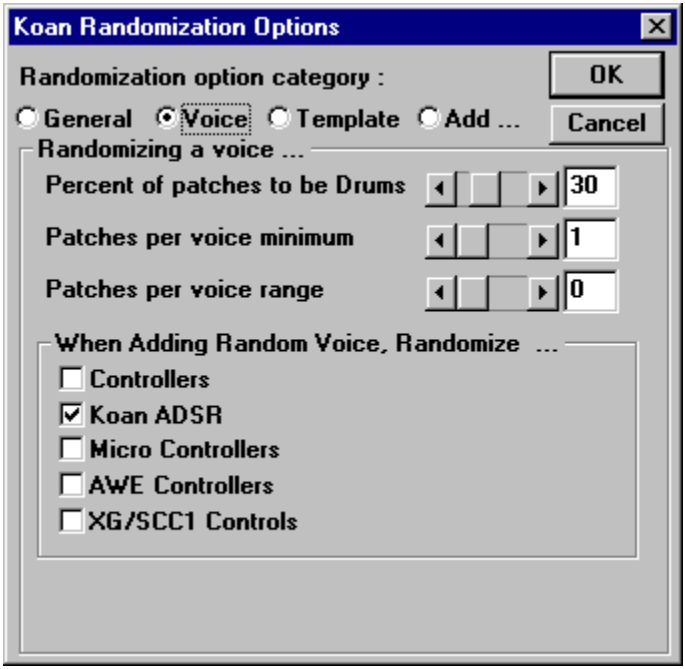
“Parameter List Entries for each new Object ...”

Define the minimum, and a range, of parameter list entries to created, when a new voice or rule is created. Can be useful for adding lots of variety to a piece; but be warned that this can enormously increase the complexity of a random piece !

“Tempo Randomization”

Define the minimum allowable tempo for your random compositions, and a range that may be applied beyond that. Only used when an existing piece is randomized. Tip : set this to e.g. a high minimum value, if you are trying to create random dance music.

Voice



Voice preferences

“Percent of patches to be Drums”

The percent of patches that are created as drums. Used when randomizing the Patch (instrument) parameter.

“Patches per voice minimum”

The minimum numbers of patches that are created for a newly randomized voice. Very useful if you like to have patch variety in your piece.

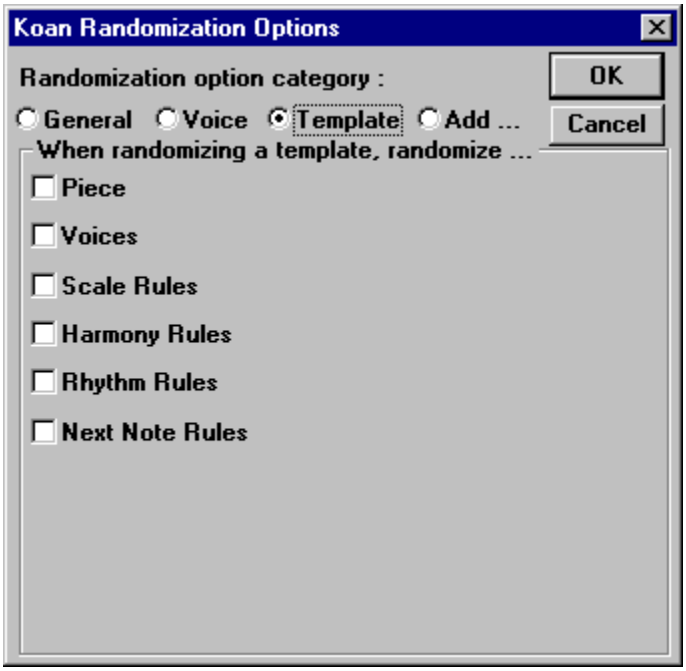
“Patches per voice range”

A range of values to apply to the “Patches per voice minimum” value.

“When Adding Random Voice, Randomize ...”

Check the box next to each parameter group, to define which of the particular groupings of parameters you wish to randomize. Very useful, for example, for preventing random controller effects from being applied.

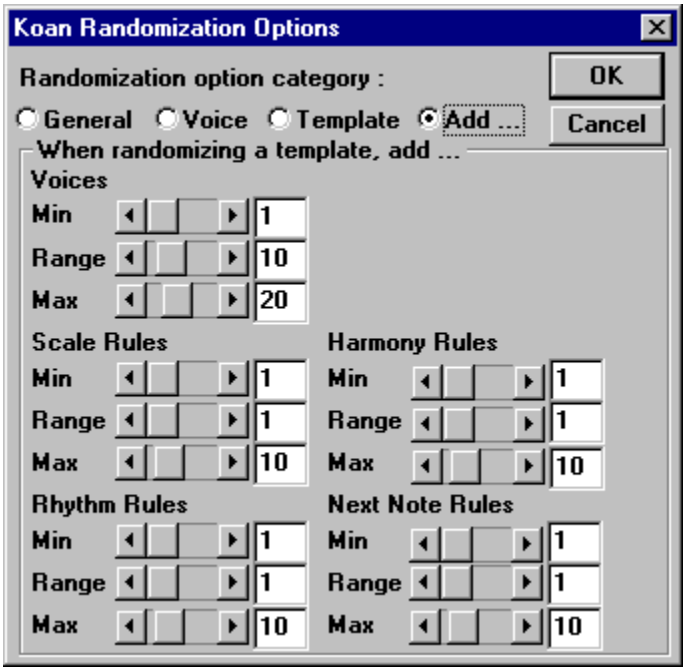
Template



Set the appropriate check boxes, to determine what can be randomized when a new file is created, based upon a randomized template file. For example, you might not want piece parameters to be randomized; but you might want the scale rules to be randomized.

“Piece” / “Voices” / “Scale Rules” / “Harmony Rules” / “Rhythm Rules” / “Next Note Rules”

Add



When creating a new random piece, whether or not based on a template, these parameters are used to specify the number of *random* voices and rules to add to the piece; in addition to those that are there already in the template. You can define the minimum number to add, a range of values on top of that, as well as a maximum number to add; for the voice and also for each rule type.

- **Voices** : "Min" / "Range" / "Max"
- **Scale Rules** : "Min" / "Range" / "Max"
- **Harmony Rules** : "Min" / "Range" / "Max"
- **Rhythm Rules** : "Min" / "Range" / "Max"
- **Next Note Rules** : "Min" / "Range" / "Max"

Tip : if there are any bits you do not like in a new random piece, then why not try further randomizing or mutating those bits, until you find something you like ?

Notes for randomization and mutation of piece / voice / controller values

1 When randomizing parameters:
- For MIDI Channel 10 : we do not assign melodic voices
- For MIDI Channel 1-9 and 11-16 : we do not assign drum voices
- For MIDI Channel 0 : we can assign either
- Random envelopes are now in-line with the 10% scratch-mix markings !
- For Drum patches (MIDI line 10 and a Drum patch) :Only rhythmic patterns are constructed.

2 If you want to randomize the patch column, then bear in mind that the MIDI line number is significant.
- Voices with a MIDI line of 0 can be assigned any patch at random.
- Voices with a MIDI line of 10 are assigned only drum patches at random
- Voices with any other MIDI line number are assigned only melodic patches at random.

3 When mutating :
- A drum patch is only ever mutated to a drum patch
- A melodic patch is only ever mutated to a melodic patch

4 The voice type is *never* randomized to be “Listening”.

5 When randomized patterns are created, these are sensitive to the Metre (first of the voice, then of the piece).

6 Patterns can be mutated and randomized, but this randomization / mutation does not follow any scale rules / harmony rules / next note rules.

7 Voice names in files constructed from randomized templates, keep their original names, instead of being renamed. This is deliberate, to help you keep track of which voices have been randomized.

8 Randomizing a parameter works with almost all parameters, but there are some for which is has no effect. These are:
- AWE SoundFont Bank + SBK Name
- Breakbeat ?
- Chord Delay Range
- Chord Delay Unit
- Chord Depth Percent
- Chord Shift/Interval
- Chord Shift/Interval Range
- Chord Strategy
- Chord Velocity Factor
- Drum Set
- Expression (11)
- Gravis Drum Patch Bank
- Gravis Melodic Patch Bank
- Harmonization Type
- Harmonize?
- Initialisation Midi Command
- Listen Adjust Invalid Notes
- Listen To Pitch Minimum
- Listen To Pitch Patch Override
- Listen To Pitch Range
- Listen To Pitch of Patch Only ?
- Listen Use Koan Velocities ?
- MIDI Channel
- MIDI Channel Sharing
- Mute
- Mute Lock ?
- Piece Demo Time
- Piece Gap
- Piece Gap Range
- Piece Initialisation Midi Command
- Piece Root Envelope
- Redistribute in SKD/SKT ?

- Save to SKP ?
- User Controller 1 Midi Command
- User Controller 2 Midi Command
- Voice Group
- Voice Image
- Volume Step Change
- Yamaha XG System On

Quick Example 1

Creating random drum kits :

1. Construct a new piece from a rhythm template, and start the piece playing.
2. Select view 5 (fixed patterns).
3. Move to the patch column, and press Ctrl-E (or select Randomize Column).
4. Be amazed !
5. Move to the pattern column, and press Ctrl-E (or select Randomize Column).
6. Be amazed !

Quick Example 2

Scratch Mixing with Random Envelopes :

1. Take your favorite Koan dance track (or create a new file which is randomized based on a drum template).
2. Start the piece playing.
3. Select the VELOCITY ENVELOPE view, and highlight any envelope.
4. Press Ctrl-E (or select Randomize Column) while an envelope is highlighted.
5. You now have an instant scratch mix - use Alt-0, Alt-1, Alt-2 etc. to move to a different place in the mix, or press Ctrl-E to create an entire new remix !

See also

Further Examples and Demos
Quick Tutorials
Pattern Editor

Randomizing a New Piece

New Random Command (File Menu)

Selecting this option, causes an entire new random piece to be created for you, according to the randomization preferences that you have defined in your current Randomization and Mutation preference settings.

Tip : use this option to rapidly create new musical ideas. If there are any bits you do not like in a new random piece, then why not try further randomizing or mutating those bits, until you find something you like ?

Shortcuts

Keys: CTRL + D

Adding a New Random Voice /Rule

Add a New Random Voice or Rule Command (Edit Menu)

This command causes a new random voice or rule (depending on the currently selected view) to be added to the piece. The values used for each parameter, depend on your current Randomization and Mutation preference settings.

Shortcuts

Keys: CTRL + R

Randomizing Parameters

Randomize Parameter (Edit Menu)

This command causes the currently selected parameter to be set to a randomly determined value. The value used for this parameter depends on your current Randomization and Mutation preference settings.

Tip : Use this to create fresh ideas for your compositions. Note that a small sub-set of parameters cannot be randomized.

Shortcuts

Keys: CTRL + P

Randomizing Columns

Randomize Column (Edit Menu)

This command causes all parameters in the currently selected parameter column to be set to randomly determined values. The value used for each parameter depends on your current Randomization and Mutation preference settings.

Tip : Use this to create fresh ideas for your compositions! Note that a small sub-set of parameters cannot be randomized.

Shortcuts

Keys: CTRL + E

Randomizing Parameter Group/Rows

Randomize Parameter Group/Row (Edit menu)

This command causes all parameters in the currently selected parameter Group/Row to be set to randomly determined values e.g. if you have a voice called FRED and you are looking at View 1, then only the parameter values for this voice (the row) and within the selected group/view will be randomized. The value used for each parameter, depends on your current Randomization and Mutation preference settings.

Tip : Use this to create fresh ideas for your compositions ! Note that a small sub-set of parameters cannot be randomized.

Mutating Parameters

Mutate Parameter (Edit menu)

This command causes the currently selected parameter to be mutated to a new value, randomly varied from the current value by a Mutation factor which is defined within your current Randomization and Mutation preference settings.

Tip : Use this to create fresh ideas for your compositions ! Note that a small sub-set of parameters cannot be mutated.

Shortcuts

Keys: CTRL + M

Mutating Columns of Parameters

Mutate Column (Edit Menu)

This command causes each parameter in the currently selected parameter column to be mutated to a new value, randomly varied from their current values by a Mutation factor which is defined within your current Randomization and Mutation preference settings. **Tip** : use this to create fresh ideas for your compositions ! Note that a small sub-set of parameters cannot be mutated.

Shortcuts

Keys: CTRL + T

Mutating Parameter Group/Rows

Mutate Parameter Group/Row (Edit Menu)

This command causes each parameter in the currently selected parameter Group/Row to be mutated to a new value, randomly varied from their current values by a Mutation factor which is defined within your current Randomization and Mutation preference settings. E.g. if you have a voice called FRED and you are looking at View 1, then only the parameter values for this voice (the row) and within the selected group/view will be mutated.

Tip : Use this to create fresh ideas for your compositions ! Note that a small sub-set of parameters cannot be mutated.

Shortcuts

Keys: CTRL + G

Adding Mutated Child voices

Mutate Add Child (Edit Menu)

Use this option to create a new “child” of the currently selected voice or rule.

Once you have selected this command, use the “Specify the other parent …” list box to select another parent with which to cross your parent voice or rule (both parents may be the same !). The resulting voice or rule is a mutated offspring of the two parents, where various characteristics of each parent are chosen for every one of the parameters that define the voice or rule. Additionally, a percentage of all parameters for the child voice or rule, equal to “Mutate Parameters %”, will be mutated by a factor equal to “Mutation Factor”.

Chapter 6 - Rules

Rules - Introduction

 Scale rule,  Harmony rule,  Next Note rule,  Rhythm rule

The Scale, Harmony, Next Note and Rhythm rules are some of the key controls that govern SSEYO Koan Pro's musical output.

Each rule is a group of probabilities of various events occurring. For instance, if the probability of a note occurring in a Scale rule is zero, there is no chance of it occurring at all. Whereas if you said you want a minor second (m2, two semitones) harmony to occur 5% of the time it will give you a little flavor of something else. The benefit of giving each event a probability means that you can get many subtleties of note combinations occurring.

SSEYO Koan Pro calculates which note pitches to play from the Harmony and Scale rules and the note durations from the Rhythm rules. If you set up and use a scale rule to mimic a major scale (where only certain notes are possible) you can be assured only notes in that major scale will play (according to the probabilities you have assigned to the various intervals). If, however, you create a new scale rule where any of the 12 possible semitones can play with equal likelihood (an atonal scale), but you then restrict the harmonies available with the harmony rule, you will get a tonally 'floating' piece.

The rules are always displayed in bar form, and in general they start at the Root note (0ve) and progress away from it the further you go to the right (towards the octave (8ve)). Also, the taller the bar the greater the chance that particular note has of occurring. Each bar can be dragged up or down with the left hand mouse button.

Harmony, Scale and Next Note rules can be applied at the Piece or Voice, and the Rhythm rule only at the Voice level. This means, for instance, the Piece could use one Harmony rule but each Voice could use a different scale rule. Whenever you see or use a '?' as the rule value you are letting the SKME choose the rule at random from a list.

When a rule window is displayed and a note is played that corresponds to one of the rule values, the appropriate bar will flash green. This is to aid you in seeing what you are hearing. For instance, you could have a Piano playing a Major scale rule. Each time the piano plays a note the Scale rule bar will flash according to what the interval was. I.E. if a 5^{th} is played then the 5^{th} bar in the Scale rule will flash. As to be expected, when a voice is muted no notes will show as being played.

Note that for Harmony, Next Note and Rhythm rules, bars will only flash when the SKME is itself composing the notes from calculations it is making. If you are playing a FixedPattern, RepeatBar (or Follows voice in some instances [i.e.chording]) these are already pre-composed and so do not count; however, voices the SKME is **composing** against these will.

Changes you make to the rules are applied immediately and you can hear any changes as soon as the SKME can get to them. It can be a great source of fun hearing the impact that changes to these rules have on the output. However, whilst any number of rules can be assigned to each piece, it is generally best to start with simplicity!

Note 1: The values for the rules used in each template will generally differ from template to template.

Note 2: Rules can be defined at the piece level. If you then set a rule value at the voice level to be '?' it will be chosen as the piece level default from any list of rules defined in the Piece view.

Note 3: Rules work relative to the current octave of a note.

Note 4: Each piece can have a list of rules defined so that every time it plays it can randomly select a rule from a pre-defined list of values; the lists can be set up at both the voice and piece level.

Rules - Scale Rule

The scale rule(s) determine which 'actual' notes **can** be played, like in a scale. As such, you can be as restrictive as you want over the notes you want to play. For instance, you may want to have a Voice with a Timpani as the Patch, and want it to play only certain notes, e.g. the 5th in a Scale, so you would set up the rules to only allow 5ths.

The probability of each note playing is determined by the height of the bar. This allows you to have the flexibility of a fixed scale with 'occasional' foreign notes (pitches). If you definitely do not want certain notes to play then give them a zero bar height.

To edit the Scale rule bars click on them with the left mouse button and drag the bar to where you want it. The taller the bar the greater the chance of that particular note occurring.

The layout of the rule is that the tonic or root (first note) of the scale is on the left, with the note a semitone above to the right of it, and so on. You have 1 full octave (12 semitones including the root note) to play with (where 'm' represents minor and 'M' major in standard music terminology):

0ve m2 M2 m3 M3 4th b5th 5th m6 M6 m7 M7

Note Each Voice can use its own Scale rule - just remember the Harmony rule will determine the harmonies though.

Note Each piece can have a list of rules defined so that every time it plays it can randomly selected one from the list.

Rules - Rhythm Rule

The Rhythm rule(s) determine the durations of any notes played; each Voice can use a different Rhythm rule. The likelihood of the various note durations is given by the height of the bar. This allows you to have the flexibility of fixed note durations with 'occasional' foreign note durations. If you definitely do not want certain note durations then give them a zero bar height. The layout of the rule is that the whole note is on the left, followed by other durations (given below) to the right. You have 9 durations to play with e.g. ('dotted' notes mean notes whose duration is increased by half):

1 ½. ½ ¼. ¼ 1/8. 1/8 Tr 1/16

1	Whole Note
½.	**Dotted half note**/Dotted Minim
½	**Half note**/Minim
¼.	**Dotted quarter note**/Dotted Crotchet
¼	**Quarter note**/Crotchet
1/8.	**Dotted eighth note**/Dotted Quaver
1/8	**Eighth note**/Quaver
Tr	**Triplet**
1/16	**Sixteenth note**/Semi Quaver

To edit the Rhythm rule bars click on them with the left mouse button and drag the bar to where you want it. The taller the bar the greater the chance that particular note has of occurring.

Note The probabilities reflected in the bar height (this can be anything from 0 to maximum) are adjusted at composition time to compensate for such factors as the current bar type e.g. 4:4 or 6:8 (triplets are encouraged in the latter) and by the amount of time remaining in a bar. SSEYO Koan Pro tries to ensure that any note chosen will not prevent the bars starting/ending cleanly.

Note Each piece can have a list of rules defined so that every time it plays it can randomly selected one from the list.

Rule - Harmony Rule

The Harmony rule dictates what notes are allowed to be played, from a harmony perspective. SSEYO Koan Pro combines the Harmony rule probabilities with those from the Scale rule to come up with the best note fit.

The rule gives the relative probability of choosing notes a given number of semitones different from each and every other currently playing note. The first 'bar' of the rule is the relative probability of playing a note which is 0 semitones (i.e. the 'root') different from another currently playing note (i.e. the 'tonic'), the second bar is the relative probability of playing a note which is 1 semitones different from another currently playing note etc. You have 1 full octave (12 semitones including the root note) to play with (where 'm' represents minor and 'M' major in standard music terminology):

0ve m2 M2 m3 M3 4th b5th 5th m6 M6 m7 M7

The way that this rule is applied in practice, is to take the relative probabilities created by the Scale rule, and then for every OTHER currently playing note, run through all possible notes relative to the CURRENT note and choose the most appropriate one. When there are 3 voices playing there can be 2 harmonies active, e.g. if the notes are B D are playing and an F is chosen to play then both B-F and D-F must be valid harmonies. Harmonies are always worked out in a direction away from the root note determined by the Piece Root parameter. So, if your Piece Root is A and an E is playing and the SKME is considering playing a C, then it works out the harmony from the E up and through the octave (i.e. E F G A B C).

To edit the Harmony rule bars, click on them with the left mouse button and drag the bar to where you want it. The taller the bar the greater the chance that particular note has of occurring.

Note Each piece can have a list of rules defined so that every time it plays it can randomly selected one from the list.

Rules - Next Note Rule

The Next Note rule determines for each Voice how far away (in semitones) from the last note the next note to played should be. The first 'bar' is the relative probability of shifting 0 semitones, the second bar is the relative probability of shifting plus or minus 1 semitones etc. I.E. if all the highest probabilities are towards the right (thus further away from the Root (0ve)), then the notes will tend to jump around more.

The layout of the rule is that the tonic or root is on the left, with the note a semitone above (or below) to the right of it, and so on. You have 1 full octave (12 semitones including the root note) to play with (where 'm' represents minor and 'M' major in standard music terminology):

0ve m2 M2 m3 M3 4th b5th 5th m6 M6 m7 M7

To edit the Next Note rule bars click on them with the left mouse button and drag the bar to where you want it. The taller the bar the greater the chance that particular note has of occurring.

Note Each piece can have a list of rules defined so that every time it plays it can randomly selected one from the list.

Chapter 7 - Recording

RECORDINGS ARE SUBJECT TO INTERNATIONAL COPYRIGHT LAW, AND RECORDINGS YOU MAKE FROM SSEYO KOAN PRO WILL IN GENERAL BE YOUR OWN. HOWEVER, IF YOU ARE USING TEMPLATES CREATED BY SOMEONE ELSE, IF IN DOUBT, OR NOT SPECIFICALLY STATED, ALWAYS ASSUME TEMPLATE ARTISTS HAVE RESERVED ANY RIGHTS TO RECORDINGS YOU MAY MAKE OF THEIR TEMPLATES. See Important - Recording Rights Checkboxes section below. See also the sections on Recordable? / Redistributable.

The Koan Recorder facility is provided so that you can record MIDI files or Audio files direct to you hard disk - provided you have the space!. In the case of an audio file this ensures the highest quality recording as the sound does not necessarily have to pass through your soundcards audio output amplifier. The Koan recorder provides you maximum convenience and an easy way to record music content for any number of applications.

File Recording Dialog

Selecting Record from the Control menu will call up the File Recorder dialog.

If you are using templates in your piece and you have been given the correct permission by the authors of all the templates you are using in your Piece (Recordable? = Yes) then you will be able to record your mix to an audio file or a MIDI file. If any of the templates used in your Piece are set to Recordable=No, then you will be warned of this when you first call up the dialog. These templates should be removed (or muted) from the Mix before you make your recording, so that you do not infringe any rights of the authors of the templates.

To save screen space whilst recording, you can minimize the record dialog by clicking the minimize icon near the top right corner of the dialog.

Path

You can use this field to change the location in which SSEYO Koan Pro creates its temporary recording files. Just type in a valid directory path.

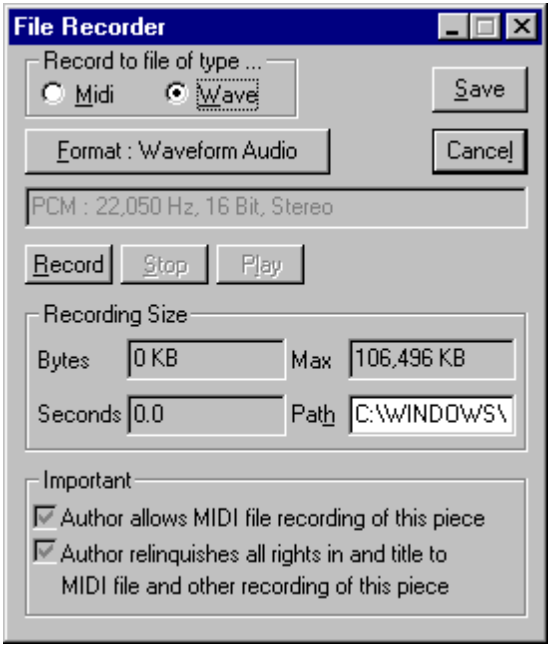
Tip : This is useful if the drive containing your default Windows temporary directory - typically C:\WINDOWS\TEMP - is short of space.

Important Note:

Should you attempt to make a MIDI file recording of a Piece containing templates with Recordable=No, then note on/off information will not be recorded for these templates. It is not possible to make templates with this setting with SSEYO Koan Pro V1.2 or earlier.

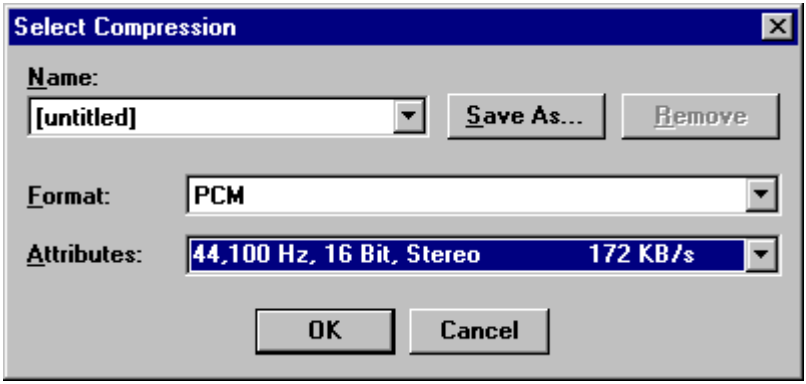
For information on the Important section at the bottom of the Record Dialog please see the end of this help section.

WAV file recording



Selecting the WAV radio button under the Record to file of type… area of the dialog will enable WAV file recording of your Piece. The Recorder will show you the increasing size of your WAV file as it is being recorded, how long you have been recording for and how much disk space you have left/available. SSEYO Koan Pro will automatically stop recording if you have less than 2 Mb free disk space. It will always record the output to a temporary file in Path location (see above).

Audio Recording quality



You can choose the quality of the recording you make through selecting the Format button. The lowest quality recordings (8 kHz 8 bit mono) take up the least space on your hard disk - a

1 minute file being just under 0.5Mb, and the highest quality recordings (44.1KHz 16 bit stereo) take up the most space on your hard disk - a 1 minute file being just over 10Mb. Before you start recording you should make sure you have sufficient space on your hard drive for the recording you want to make !

Once you have recorded and saved the WAV file, you can then edit it in your favorite audio editor or even copy it to a recordable CD ROM writer (if you are lucky enough to have one) and so cut your own CD !

Note Depending on the architecture of your soundcard, you might first have to connect an audio lead from the audio output of your synthesizer, back to the audio input of your soundcard. Some soundcards such as the Creative Labs AWE64/AWE32/SB32 can record the synthesizer output directly, without having to use an external feedback lead.

Note If you get a message saying Cannot open output device or if you see a : for the format, you will have to restart SSEYO Koan Pro (or reboot) before you can continue recording.

Note Yamaha Soft Synthesizer users -You will not be able to record a WAV file using current versions of the Soft Synthesizer SGM-MM as it uses the audio channel to create the sounds - you cannot use it to record on the audio channel at the same time! However, please check with Yamaha for the latest details.

Note If you encounter the problem that you do not seem able to find an option to record to a WAV file using the right bandwidth, or if Stereo files do not seem to be an option, then you will need to review your system's Codec settings.

Note If you have currently got DirectSound 5 (or later) enabled, then the text of the Format button will actually read Format : Direct Sound Capture. You will see a different format dialog when you click on the button. In this case, the available recording format options listed, are typically only a small subset of those that would otherwise be available if Direct Sound were not being used. A new feature of Koan X V2.1, is that you can now record direct to WAV file, even when playing using WAV-based instruments (when using Direct Sound 5). To get a wider range / higher fidelity, you must disable Direct Sound via the Setup dialog (and then restart your program) : though in this case of course, any WAV instruments you have in the piece will not be played properly !.

WAV file recording

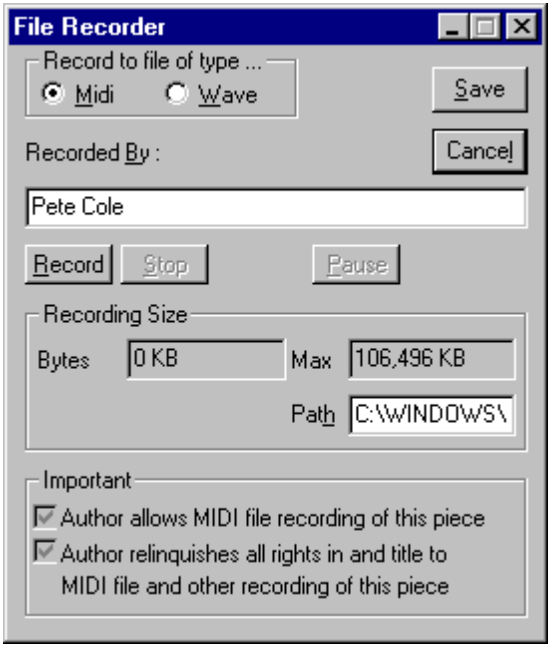
1. Open the Record Dialog by either selecting Record from the Control menu, press the Record button on the Toolbar, or press the F5 key. Select Record to file of type to be WAV.
2. Select the audio format you wish to record to and make sure you have sufficient space available on your designated hard drive.
3. A) Either press the Record button in the Record Dialog to start the recording (you can also tab to it and then press the spacebar) and then start your Piece playing, or:

   B) Start your Piece playing and then press the Record button in the Record Dialog to start the recording (you can also tab to it and then press the spacebar).
4. Press the Stop button in the Record Dialog to stop the recording (you can also tab to it and then press the spacebar).
5. Stop your Piece playing.
6. Before you save it, you can listen to your recording by pressing the play button in the Record Dialog.

7 Press the Save button to save your WAV file - you will be prompted to give it a name. Or press cancel to remove it from your Windows temporary directory.

8 To make another WAV file recording, just carry out steps 1 - 5 again.

MIDI file recording



Selecting the MIDI radio button under the Record to file of type… area of the dialog will enable MIDI file recording of your Piece. Use this command to record a Type 0 MIDI file of your Piece, and if you are playing along (see Fixed Volume Input Line section in the Setup Options section) this will be recorded, too. The Recorder will show you the increasing size of your MIDI file as it is being recorded as well as how much disk space you have left/available. It will always record the output to a temporary file in Path location (see above) - you may then save this file if you wish. This temporary file will be deleted if you press Cancel button.

Once you have recorded and saved the MIDI file, you can then edit it in your favorite sequencer package.

Note If you record a MIDI file that uses a SoundFont Bank, then a "SoundFont..." tag is put into the MIDI file. If you play this MIDI file with SSEYO Koan Web, the SoundFont Bank will be loaded automatically if it is present (check the Supplementary File Search Path in Setup Options).

General MIDI file recording

1 Open a Piece and BEFORE you start your Piece playing, open the Record Dialog by either selecting Record from the Control menu, press the Record button on the Toolbar or press the F5 key. Select Record to file of type to be MIDI.

2 Enter your details in the “Recorded By” text area.

3 To make sure you capture all the program change/ instrument selection information in your MIDI file (see note 1 below), do as follows:

A) **BEFORE** you start your Piece playing, press the Record button in the Record Dialog to start the recording (you can also tab to it and then press the spacebar).

B) Start your Piece playing.

4 To make sure you do not get any hanging/stuck notes in the MIDI file when you finish recording (see note 2 below), do as follows:

A) **BEFORE** you stop the MIDI file recording, make sure to stop the Piece playing.

B) Press the Stop button in the Record Dialog to stop the recording (you can also tab to it and then press the spacebar).

5 Press the Save button to save your MIDI file - you will be prompted to give it a name. Or press Cancel to delete it from your Windows temporary directory. You can now listen to the recording in a MIDI player like the Windows Media Player or in your sequencer (if you have one).

6 To make another MIDI file recording, just carry out steps 1 - 5 again.

More advanced MIDI file recording

Using Pause when recording one Piece in one MIDI file

To Pause the recording during a 'take', press the Pause button and press it again to continue when you are ready. If in the meantime you have added some new templates or changed some patches, the new information may not be recorded in the MIDI file.

Using Pause when recording multiple Pieces in one MIDI file

Recording many Pieces in one file is really neat because you can stitch together medleys of mixes without even the use of a sequencer package. If you want to pause the recording of one piece and then load another to be recorded in THE SAME MIDI file - and keep all the program change information - make sure you follow the following procedure (assuming you are already recording a Piece under General MIDI recording above):

1 Stop the currently playing Piece.

2 Press the Pause button in the Record Dialog.

3 Open the Piece you want to record to the same MIDI file.

4 Start Recording again.

5 Start the new Piece playing.

6 Repeat 1 to 5 for other pieces to be added to the file.

7 Stop your last Piece playing.

8 Press the Stop Recording button in the Record Dialog.

9 Close the Record dialog.

Important: Recording Rights checkboxes

Both SSEYO Koan Pro and SSEYO Koan X Platinum and save SSEYO Koan Design (SKD) files - ***pieces***-, but both systems arrive at the end product in completely different ways. The reason for outlining the scenarios below is that you may come across other SKD pieces on the WWW that have been created by SSEYO Koan X, rather than SSEYO Koan Pro.

SSEYO Koan Pro generated pieces

When a Koan artist (Author) uses SSEYO Koan Pro to create a complete SSEYO Koan Design (SKD) file (a ***piece***), it will contain many custom voices and parameter settings - it is generally built from scratch if you like, In this case, the artist can choose whether or not to allow recording at the piece level or to reserve any rights they may have to any recordings made (see below) However, you can also use Koan X templates in the piece (SSEYO Koan Pro does come with a range of its own templates that you can use, any use restrictions being noted in the template), but just make sure that you respect the rights of the template's author.

SSEYO Koan Pro in terms of a painting analogy

Painting	Koan Pro	Allow recording	Rights to recording
Canvas	STYLE	Yes, if you create it	Yes, if you create it
Paints	TEMPLATES	Yes, if you create them (check with author if using Koan X templates)	Yes, if you create them (check with author if using Koan X templates)
Finished work	PIECE	Determined by piece author	Determined by piece author

SSEYO Koan X generated pieces

When you use SSEYO Koan X to create a Piece, you create an new SKD file (a ***piece***) from an empty piece (a ***style template***) and then drag in your base materials (protected Koan ***templates***) provided by other artists who have created them using SSEYO Koan Pro. All the ***style templates*** provided with SSEYO Koan X allow MIDI file recording at the ***piece*** level as a default, and the original template author decided to allow/disallow it at the template level, and at the ***piece*** level relinquish all rights and title to recordings made. Note that if the template author has not specifically allowed their recording, then they have NOT relinquished their rights to recordings of that template.

SSEYO Koan X in terms of a painting analogy

Painting	Koan X	Allow recording	Rights to recording
Canvas	STYLE	Allowed as default	NOT reserved as default
Paints	TEMPLATES	Determined by template author	Determined by template author
Finished work	PIECE	Combination of above	NOT reserved as default

CHECKBOXES

Author allows MIDI file recording of this piece

SSEYO Koan Pro generated Koan pieces - could be either
SSEYO Koan X generated Koan pieces - usually checked

The Author (or you if you are the author) decides whether or not they are willing to let you record the output of their Koan piece to a MIDI file, when you remix it (providing any templates within it also allow this - see section on Recordable?). For instance, they might

provide complete custom pieces for you to remix live, but not for MIDI recording. If the this checkbox has a tick in it, then it means you can record your mix of it to a MIDI file (providing any templates within it also allow this). If the checkbox in unchecked then you must not attempt to record it.

Author relinquishes all rights in and title to MIDI file and other recording of this piece

SSEYO Koan Pro generated Koan pieces - could be either
SSEYO Koan X generated Koan pieces - usually checked

The Author (or you if you are the author) has decided they are prepared to relinquish all rights in and title to MIDI file or other recordings (e.g. audio) of their Koan piece (***but template authors may not agree to this for their templates, so check with them. See also section on Recordable?***). If they do, then you can record it and own the copyright on any recordings you may make. Refer to copyright for further clarification.

Note 1: It is always best to start MIDI file recording before you play your Piece, to make sure you capture all the program change/patch selection information.

Note 2: If you stop recording a MIDI file before you stop SSEYO Koan Pro playing and you then load up the MIDI file into your sequencer, you will hear/see that the notes that were playing when you stopped recording, continue to play for ever - they are left 'hanging'. This is because pressing the Stop Recording button does NOT stop SSEYO Koan Pro from playing and the recorder is not to know the notes should be 'stopped'. If you want to force all notes to stop in your MIDI file, just stop SSEYO Koan Pro before you stop the MIDI File Recording.

Note 3: SSEYO Koan Pro can create pieces that have very slow tempos (e.g. less than 40). Some sequencer packages may have trouble loading MIDI files with very slow tempos.

Note 4: When using SoundFont banks (SBKs) in your Pieces on a slow computer, you might like to play the mix once (or start to play it) so that any SBKs that are used in the mix are already pre-loaded onto the soundcard RAM - initial loading can take a few seconds. Once a SBK has been loaded onto RAM you can play your Piece again and it will not try to reload it.

Shortcuts

Tool Bar: 

Keys: Alt+C+R or the F5 key

See also

Piece Notes
Recordable?
Online Help on CODECs
Copyright

Chapter 8 - Pattern Editor

Pattern Editor

The Pattern Editor - Key Concepts

The pattern editor is used to create Patterns; it is only relevant to create patterns for Fixed Pattern Voice types.

The Pattern Editor (abbreviated to PE from here on in) is a kind of musical palette for creating/importing/editing SSEYO Koan patterns - seed phrases used by SSEYO Koan pieces around which the SKME will compose. Patterns are particularly important for creating dance based music. The way the PE works is that is loads up any pattern(s) stored in a voice and allows you to operate on these in a visual way. It is like a snapshot, and unless you save your changes back to the piece, they will be lost.

You can enter patterns via the mouse and you can play back patterns in the Pattern Editor. You can also import MIDI files, or sections of them, to the PE where you can further modify them.

Note Real "power" users are also referred to the Pattern parameter for more information on the underlying pattern string syntax. You do not need to know about this to use the Pattern Editor.

Note If you look at a pattern in the PE and the display is blank or there are notes at the very bottom of the screen (and you know for certain that one is in there because you can see the pattern text string in the Text Edit dialog off the Groups menu in the PE), then you are looking at a pattern with a protected Scale rule. In this case even SSEYO Koan Pro can not see it, so it does not know what notes to display.

First Quick Looks

Open up the demo file DEMO2.SKD. First highlight the voice of interest (in this case the voice called Bass, a Fixed Pattern voice) and then open the Pattern Editor by either selecting Group | Pattern from the menu, pressing the Pattern Editor button on the top toolbar, clicking the button in the Patterns parameter cell in View 5, or selecting the cell and press the Enter key. When the PE loads you will see a pattern on screen. Press the play button to hear the whole piece; to hear just this pattern, press the **M** button on the PE toolbar. The rest of this section will take you through the powerful capabilities of the PE. Incidentally, up to three windows may be launched on opening the PE - one for each type of pattern currently in the voice. So in effect, there are three pattern editors - one for each type of sub-pattern. See below for the Pattern Editor Menus.

Sub-Pattern Types

Firstly, a bit of background. Patterns (e.g. a musical/melodic phrase, motif, riff or building block) are stored as sequences of numeric intervals that are applied to a voice's scale rule, together with event information (i.e. when to play the note and how long to play it for). On the melodic front, if for example you had a voice with a pattern with intervals of 1,2,7,4,2,1 (not the actual syntax) a root note of A and a scale rule that allowed every note (chromatic

scale - A,A#,B,C,C#,D,D# etc) then the pattern would play A (the root counts as the first interval), A# (2nd available interval), D# (7th available interval), C (4th available interval) etc.

A voice's pattern parameter may contain just one pattern or a number of "sub-patterns" (the same syntax as patterns but we call it this to indicate there is more than 1), each of which may be of one of the following sub-pattern types.

Melodic

These patterns use the voice's scale rule to determine which notes are available and contain timing (event) information. If this pattern has an associated Mutation Factor, then when it plays back the mutations will also be constrained by the Next Note, Harmony and Rhythm rules of the voice.

Tip : Use Melodic patterns when you want specific phrases/riffs to be played within a piece.

Melodic - Forced Frequency

A sub-type of Melodic pattern, where the notes are forced to play at particular pitches, irrespective of scale and other rules.

Tip: Use Forced Frequency sub-patterns, if you want specific notes to be selected from SoundFont files; for example, where you have constructed a "recycled" breakbeat.

Rhythmic

These patterns do not define the pitch values (i.e. they are not melodic riffs) but they do contain event information. You can see multiple rhythmic sub-patterns on screen if you load the PE by selecting its button on the top toolbar with both the left and right mouse buttons simultaneously.

Tip: Rhythmic patterns are typically used for either Drum patterns or for some Bass riffs.

Sequenced

The above sub-pattern types may be combined in pre-determined sequences to form sequenced patterns. A sequence is basically something like "play pattern 1 for 2 bars, play pattern 4 for 2 bars" etc. You can also create semi-random sequences of patterns e.g. "play one of patterns 1 to 4 for 1 bar, play pattern 4 for between 2 to 4 bars" etc. You can also create lists of sequenced patterns.

Tip : SSEYO constructs many of the drum kit patterns, making heavy use of sequenced rhythmic sub-patterns.

As the SKME composes for a Fixed Pattern voice, **at random** it chooses to play one of the sub-patterns (if more than one is available) in the Pattern Parameter. That sub-pattern is played to completion, before another sub-pattern (which may be the same as the previous selection) is chosen and again played to completion. Sequences may be used to constrain the choice of sub-pattern (see later for details).

Note Sub-pattern choices are graphically indicated as they are made by the SKME.

Using the Pattern Editor

Special Menu items in the Pattern Editor

(other menu items are as the main interface)

Menu item	Brief Description (see below for more details)
File Apply	Applies your edits/changes to the pattern parameter (which may contain sub-patterns)

File Reload	Reloads the pattern parameter (which may contain sub-patterns)
Edit Add Pattern	Adds an appropriate blank sub-pattern (melodic/rhythimc/sequence) - CTRL + A
Edit Delete Pattern	Deletes the selected pattern - CTRL + D
Edit Add Seqeunce Event	Adds a blank sequence even - CTRL + INS
Edit Delete Events	Deletes a sequence event - DEL
Edit Select All	Select all events in the currently selected pattern
Edit Randomise Pattern	Causes the events in the pattern to be randomised - CTRL + P
Edit Mutate Pattern	Causes the pitches in a melodic pattern to be mutated (event s staying as they are) or the events to be turned on/off for rhythmic patterns - CTRL + M
Edit Import MIDI	Import a MIDI phrase
Edit Export MIDI	Export a sub-pattern to a MIDI file
Groups Pattern Ordering	Displays a dialog to allow ordering of Patterns
Groups Text Edit	Displays a dialog where pattern strings can be changed by hand
Groups Pattern Editor by type	Melodic, Rhythmic, Sequence: Open the editor of your choice

Essential toolbar operations

Use the top toolbar transport controls to start / stop / rewind / forward through the piece as normal. Note that some of the buttons listed below, are not present in all pattern editor windows.

Apply

Press the Apply button (or select Edit Apply from the menu) to save the current pattern editing session back to the originating voice in your current piece. Your new/edited patterns or changes to any of the parameters available in the Pattern Editor will not be made to the piece **until** you press the Apply button, when they will be written back to the piece.

Reload

Press the Reload button (or select Edit Reload from the meu) to re-load the pattern editor with the original pattern stored in the originating voice in your current piece; losing any currently unsaved edits in the PE. If you make other changes to the piece in the background not through the PE (e.g. change the piece tempo), you may have to reload the PE to have these reflected in the display.

Draw

 Press the Draw Events button to be able to start editing the pattern in the current PE window.

Velocity

 Press the Velocity button to show / hide velocity information. Velocity information will be displayed in an area at the bottom of the screen, directly in line with the pattern note

events. You edit it by clicking on it with the Left mouse button. The taller the cell value, the greater the velocity.

Mute All

When you play a pattern in the PE, all the other voices in the piece will play also (so that you can hear it in context). Pressing the Mute All button (or ALT + M), however, will cause all other voices in the piece to be temporarily muted, meaning you can listen to listen to just the current voice in the pattern editor window (known as "soloing"). This button toggles the muting on/off.

Create


Press the Create button (or CTRL + A) to create a new sub-pattern or blank sequence within the current PE window.

Tip : When adding Rhythmic sub-patterns you can see each new sub-pattern appear on the screen at the same time (see above); but for **Melodic** sub-patterns, you will need to press the first cell under the **Pat** area to reveal the different Melodic sub-patterns (see later).

Delete


Press the Delete button (or CTRL + D) to delete the currently selected sub-pattern.

Clear


Press the Clear button (or ALT + E + L) to clear out the sub-pattern in the PE window.

Melodic


Press the Melodic patterns button (or ALT + G + E + M) to display the Melodic pattern editor for the current voice (only available on some windows).

Tip : use this button, if you are for example editing a Rhythmic pattern, and you want to edit a sub-pattern type (such as Melodic) which is not visible in the current pattern editor window.

Rhythmic


Press the Rhythmic patterns button (or ALT + G + E + R) to display the Rhythmic pattern editor for the current voice (only available on some windows).

Sequence


Press the Sequence patterns button (or ALT + G + E + S) to display the Sequence pattern editor for the current voice (only available on some windows).

Sub-Pattern Ordering


Press the Sub-pattern Ordering button (or ALT + G + O) to pop-up a simple dialog, which lets you re-order / re-number your sub-pattern sequences. This is important if you have combinations of rhythmic/melodic patterns.

Import

Press the Import button (or ALT+E+I) to Import into the current sub-pattern from MIDI file (not available for Sequence sub-patterns).

Allows you to import MIDI files or sections of MIDI files. When you perform an import the new information will overwrite any pattern already present in the currently selected pattern. E.g., you may have 3 patterns defined in your pattern group and are looking at pattern 2 of 3. When you import, the information will overwrite pattern 2. See **MIDI File Import** for full information of how to use the MIDI File Import dialog.

Export

Press the Export button (or ALT+E+E) to Export the current sub-pattern (not available for Sequence sub-patterns). You may export your patterns from the pattern editor, directly to MIDI files. Simply press the "Export" button, and specify the file name to use; the currently selected sub-pattern will then be exported to that MIDI file.

Meter

Press the Meter area (or CTRL+E) to display a drop-down list, which may use to override the current Meter parameter setting. Select the box with the mouse, and keep the mouse button down while dragging the mouse up or down to increment/decrement value. If you do change the meter in the Pattern Editor, we recommend you apply your pattern, close the Pattern Editor and re-open it.

Snap

Press the Snap area (or CTRL+S) to display a drop-down list, which may use to override the current Snap Resolution setting for the current pattern editor window editing session. Select the box with the mouse, and keep the mouse button down while dragging the mouse up or down to increment/decrement value.

Tempo

Press the Tempo area (or CTRL+T) to display a drop-down list, which may use to override the current Piece's Tempo parameter setting. Select the box with the mouse, and keep the mouse button down while dragging the mouse up or down to increment/decrement value.

Text Editor

From the Groups menu, select **Text Editor …** to display the **Pattern List dialog** (see Patterns parameter)**.**

Information Area (left hand side):

In the top left of the PE window you will see things like the current patch for the voice you are looking at, the sub-pattern number, the number of bars, mute/solo etc. Click in these areas to change any of the selected values. What is actually displayed in this area, depends on the current sub-pattern type.

Tip : The two small buttons marked **M** and **S** to the left of a pattern are mute and solo buttons for the sub-pattern (not voice). The functionality of the small M and S (sub-pattern Mute and Solo buttons) becomes clearer if you try creating several rhythmic sub patterns in a voice and see how the mute/solo buttons work. The reason they switch during playback of melodic patterns is that they are updating to reflect the mute status of the selected pattern as it gets swapped into display.

Tip : The relative Probability of any particular sub-pattern being chosen in preference to any other sub-pattern, is changed by selecting vertical slidebar in the "Prob" area. Use the Probability settings to make some sub-patterns more or less likely to be selected.

Note Every sub-pattern within a pattern, has a uniquely identifying sub-pattern number. This sub-pattern number is very important for the purposes of sub-pattern sequencing.

Melodic Pattern Editing

LEFT SIDE

M

The small button marked M is the Mute button (or ALT+M) for the voice's sub-pattern (as distinct to the larger M button on the toolbar - which is the Mute button for the entire piece). A voice can have several sub-patterns from which Koan selects during playback;. those that are "muted" will not be selected (i.e. Koan is forced to choose from one of the other sub-patterns). If there is only one sub-pattern, this mute does not actually take effect.

S

The small button marked S is the Solo button (or ALT+S) for the sub-pattern; this button has the effect of muting all other sub-patterns - if there are any.

Voice

This shows the name of the current Voice.

Patch

This shows the Patch parameter for the current Voice. You may select a new patch from a list of available patches, by clicking your Mouse in this area and dragging to the selection you want or pressing ALT+P. Note that for more sophisticated Patch parameter editing, you might wish to use the main SSEYO Koan Pro Power View (e.g. to use SoundFonts, WAVs or Patch Banks).

Scale

This shows the scale used by the current Voice (CTRL+L). You can override this value if you wish.

Force Frequency

Use this check box (or CTRL+F) if you wish to Force the frequency used by this Melodic sub-pattern. Use the Octv and Root settings to define the minimum frequency to be played.

Chnl

The MIDI Channel used by the voice (CTRL + H); a value of 0 means that the channel is allocated automatically. Switching to channel 10 brings up the General MIDI percussive map.

Pat

Use this drop-down list (ALT + P), to specify which numbered Melodic sub-pattern for the current voice, you wish to edit. **Tip** : you will need to use this, to be able to move between different Melodic sub-patterns as you add them to your pattern !

Bars

Defines the length of the current sub-pattern (CTRL + B), as a number of bars for the current meter.

Root

Defines the Root of the current pattern (CTRL + R).

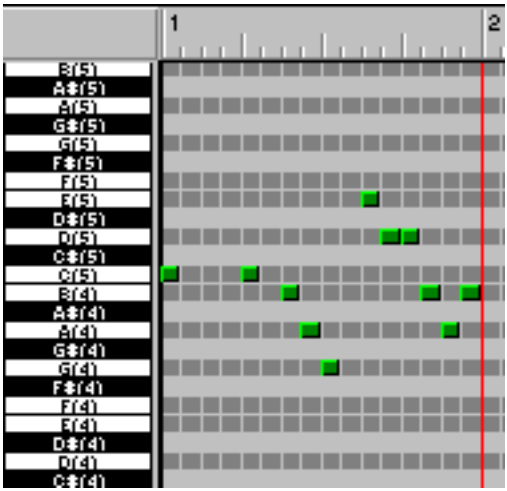
Octv

Defines the Octave of the current pattern (CTRL + O).

Prob

Move your mouse in the area of “Blue bar”, to define the Relative Probability of this sub-pattern being selected. **Tip** : this is how you make any one sub-pattern more or less likely to be chosen than any other sub-pattern.

Melodic Pattern Editing



RIGHT SIDE

Adding/editing melodic patterns by mouse

Draw mode

In order to draw in the pattern editor, go into "draw mode" by pressing the pencil button, then draw around the main area with the mouse. This adds new events at whatever snap resolution has currently been set.

Short notes

Click on any square in the grid with the LHS mouse to enter a note, which will display as a green square. For meters of X/4 (e.g. 4/4 or 5/4) this will be a 1/16th note and for meters of X/8 (e.g. 6/8 or 9/8) this will be one note of a triplet.

Lots of short notes

If you hold down the SHIFT Key + LHS mouse button, and drag the mouse across the area of interest; this will rapidly create a number of short notes at the current snap resolution.

Long notes

Click on any square in the grid with the LHS mouse button, hold it down and drag across the number of square you want the note to display. The entire notes will display as a green rectangle, which indicates a long note event.

Selection / editing when not in draw mode

Selection

Use the mouse to select events by either rubber-banding them (hold down the LHS mouse button and drag around the region of interest), or select the region of interest with the LHS mouse button and optionally with the shift key pressed to select several separate events.

Deletion

Press the "**delete**" key to delete any selected events, or use the Edit Delete menu option.

Moving

To move selected events, select the event of interest with the mouse, and then drag it to the new location by holding down the mouse button while dragging and then releasing to drop at new location.]

Copying

To copy events, hold the control key down when you release the selected note events.

Rests

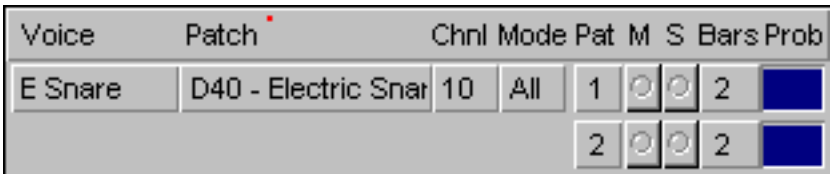
Rest notes are not displayed, but where there is no note defined it will be a rest by default. To create a rest within an existing sub-pattern, select one or more green cells that you wish to remove (which will then display as Red to indicated that they have been selected), and then either press the DEL key or select Edit Delete from the menu.

Cut and Paste

Use the pattern editor "edit" menu option on menu bar to cut/copy the content of one sub-pattern to be pasted into another sub-pattern of the same type.

Note When editing Melodic sub-patterns, the actual pitch of note shown in the Pattern Window, is governed by the of the Pitch parameter). It is good practice to start all patterns near the root, otherwise the pitch can get very high before you know it.

Rhythmic Pattern Editing



LEFT SIDE

Note See Melodic Pattern editing for shortcuts

Voice

This shows the name of the current Voice.

Patch

This shows the Patch parameter for the current Voice. You may select a new patch from a list of available patches, by clicking your Mouse in this area and dragging to the selection you want. Note that for more sophisticated Patch parameter editing, you might wish to use the main SSEYO Koan Pro Power View (e.g. to use SoundFonts, WAVs or Patch Banks).

Chnl

The MIDI Channel used by the voice; a value of 0 means that the channel is allocated automatically.

Mode

This defines which of the Rhythmic sub-patterns for the Voice you wish to see on screen at any one time. Set to “All” to see all rhythmic sub-patterns at the same time., or alternatively select one of the numbered sub-patterns to look at just one of the sub-patterns at a time.

Pat

Displays the number of the current on-screen sub-pattern.

M

The small button marked M is the Mute button for the sub-pattern. A voice can have several sub-patterns from which the SKME selects during playback; those that are “muted” will not be selected (i.e. the SKME is forced to choose from one of the other sub-patterns). If there is only one sub-pattern, this mute does not actually take effect.

S

The small button marked S is the Solo button for the sub-pattern; this button has the effect of mutating all other sub-patterns - if there are any.

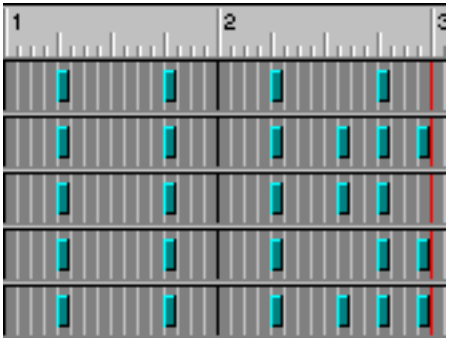
Bars

Defines the length of the current sub-pattern, as a number of bars for the current meter.

Prob

Move your mouse in the area of “Blue bar”, to define the Relative Probability of this sub-pattern being selected. Tip : this is how you make any one sub-pattern more or less likely to be chosen than any other sub-pattern.

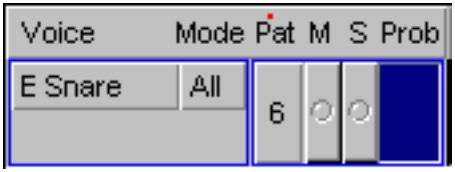
Rhythmic Pattern Editing



RIGHT SIDE

To add a new sub-pattern, press the Create button. Click / drag the mouse in here, to create/edit patterns, using similar draw features as for the melodic editor above.

Sequence Pattern Editing



LEFT SIDE

Note See Melodic Pattern editing for shortcuts

Voice

This shows the name of the current Voice.

Mode

This defines how many of the Sequence sub-patterns you wish to see for the Voice at any one time. Set to “All” to see all sequence sub-patterns at the same time, or alternatively select one of the numbered sub-patterns to look at just one of the sub-patterns at a time.

Pat

Displays the list number of the currently displayed sequence sub-pattern. All sub-patterns have an internal number to identify where they are in the list of all available sub-patterns (so the SKME can know how many there are to choose from!). As a sequence pattern is just another sub-pattern, it also takes up a slot in the list. Therefore if you had 5 say rhythmic sub-patterns and you created a sequence sub-pattern, it would be 6th in the list and so be numbered 6.

M

The small button marked M is the Mute button for the sub-pattern. A voice can have several sub-patterns with which the SKME selects during playback;. those that are “muted” will not be selected (i.e. the SKME is forced to choose from one of the other sub-patterns). If there is only one sub-pattern, this mute does not actually take effect.

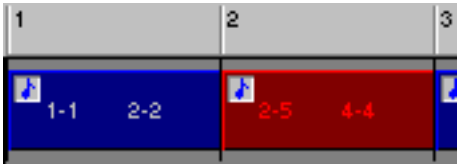
S

The small button marked S is the Solo button for the sub-pattern; this button has the effect of mutating all other sub-patterns - if there are any.

Prob

Move your mouse in the area of “Blue bar”, to define the Relative Probability of this sub-pattern being selected. Tip : this is how you make any one sub-pattern more or less likely to be chosen than any other sub-pattern.

Sequence Pattern Editing



RIGHT SIDE

If, when you play the PE, you have a number of sub-patterns defined but no sequences of sub-patterns (e.g. a sequence sub-pattern), then this row will be blank and each sub-pattern will be chosen to play strictly according to its probability setting. Once one sub-pattern has played, the next will be at random chosen to play etc. However, with the power of sequencing sub-patterns (sequence events) you can impose some order on this - and the degree of order can even be total if you wish. You can also have lists of the very sequences themselves and these are chosen at random according to their probability weighting, just like in a normal list. If you **do** have any sequence sub-patterns for a voice, when the piece starts to play, one of the sequence sub-patterns will be chosen to play. The order the sequence events play is from left-to-right, until the end is reached; a new sequence sub-pattern will then be selected at random, and the process will be run through again.

The **numbering** of individual sub-patterns is important for sequence events (if using mixed pattern types), so you will probably wish to group them in certain orders. You can do this using the  **Sub-Pattern Ordering** button to pop-up a simple dialog, which lets you re-order your sub-patterns by moving them up-or-down the list. The reason this is important is as follows. Imagine you have a sequence like ”play one of sub-patterns 1 to 3 for 1 bar, play any sub-pattern from sub-pattern 4 to 6 for between 2 to 4 bars” etc. Say sub-patterns 1, 3, and 5 are rhythmic and 2, 4 and 6 are melodic (because this is the order in which you created them). What you really want is sub-patterns 1-3 to be melodic and 4-6 to be rhythmic, otherwise your sequencing won’t work right. Note: If all the sub-patterns are of the same type, when you move them up and down with this pop-up you will not see any change in the pop-up. However, if you have the appropriate rhythm or melody editor in the background, you will see the sub-patterns moving position on this.

It is not possible to copy or paste sequence **individual** sequence events; though entire sequence sub-patterns may be copied and pasted from sub-pattern to sub-pattern.

General selection / adding/ editing

Create new

To create a new sequence sub-pattern, press the Create button,

Add event

To add sequence events to this sequence sub-pattern, double click with your left mouse button in an empty cell in the row

Selection

Use the left mouse button to select a sequence event. You can also select several sequences by using a left mouse button / shift key combination (for deleting, below).

Deletion

Press the “delete” key to delete any selected sequence events, or use the Edit Delete menu option.

Copying

To copy an entire sequence sub-pattern, select Edit Copy from the menu.

Paste

To paste a entire copied sub-pattern to another sub-pattern, select Edit Paste.

Modifying the Sequence Event

To modify the contents of the sequence event, simply double-click on the sequence event box. A simple dialog is displayed, in which you may set the following information :

Pattern From

This value sets the lowest sub-pattern number that will be selected to play for this sequence event (e.g. start with the sub-pattern 4th in the list).

Pattern To

This value sets the highest sub-pattern number for this sequence event (e.g. set this to 7 if you wanted sub-patterns up to the 7th sub-pattern in the list to play).. Note that the actual sub-pattern chosen to play is done randomly (and each time one finishes another in the list can be chosen to play), according to the relative probabilities given to each of the sub-patterns in the specified range. So, if you have Pattern From set to 4 and to Pattern To set to 7, any sub-pattern from 4th to 7th place in the list could be chosen to play.

Iteration From

This value sets the minimum number of times sub-patterns will be selected to play (e.g. play 2 sub-patterns, as per above). Note that if this value is set to the number 0, then when selected, a sub-pattern will play until the end of the piece. Tip : watch-out for this special case !

Iteration To

This value sets the maximum number of times sub-patterns will be selected to play (e.g. play 4 sub-patterns, as per above). Note that the actual number of times sub-patterns will be played will be some where between these two values. So, if you have Iteration From set to 2 and to Iteration To set to 4, then from 2 to 4 sub-patterns will be played during this sequence event.

As you can built up sequence events you can build up very ordered pieces. For example, if you want to determine in your piece exactly where each Pattern voice starts to play, you could create a sequence pattern that played say a blank bar for the first 20 bars of a piece, following which the normal patterns started. Refer to the Pattern parameter for the actual sequence pattern syntax.

Other controls

 Zooming Use the zoom buttons in the scrollbars to enlarge/shrink the displayed resolution.

Limits & Notes

Note Different sequencer products adopt different standards for the octave number to display. For example, sequencer X might display middle C as C2, while sequencer Y might display middle C as C5! So if you use SSEYO Koan Pro in conjunction with a sequencer product you may experience some confusion in the use of octave numbers.

- The Pattern Editor supports patterns with a maximum of 396 quarter notes. This translates to 99 bars in 4:4 time signature (396 quarter notes = 4 quarter notes x 99 bars).
- When the pattern editor is opened, the FIRST piece root parameter in a list is always chosen and used (no random selection then in the pattern editor - therefore the piece *will* play a little differently from within the pattern editor). When Apply is pressed, only the FIRST root entry is changed in the background piece. If your piece has a Scale Root Pattern the PE display will not update when the root changes. If the selected Piece Root is actually a string of values (e.g. “Ab C D”), then the first root in the string is used by the Pattern Editor (e.g. Ab in this example): when applying a root change from within the Pattern Editor (e.g. to G#), then only the first root in the string in the background piece is overwritten (e.g. it is changed from “Ab C D” to “G# C D”).
- When **displaying** melodic patterns, and also in the import dialog, we refer to MIDI frequencies (which are in the range 0-127) using standard MIDI shorthand. In this shorthand, middle C (MIDI frequency 60) is displayed as C4, where C is the note and 4 is the octave number within which the note is played. In these terms, the minimum note is C-1 which is MIDI frequency 0.

See also

Patterns and Sequencing
Quick Tutorials
Further Examples and Demos
Scale Rules
Shortcuts
MIDI File Import/Export
Randomization and Mutation
Editing Protected Files
Creating Protected SKT files

Chapter 9 - Import/Export

MIDI File Import/Export

SSEYO Koan Pro allows you to import/export sections of MIDI files to/from the Patterns parameter. Any MIDI fragments or phrases that are imported are saved in SSEYO Koan Pro's own file format; you can then further modify these patterns with the Pattern Editor, if required. SSEYO Koan Pro's export feature allows you to export these patterns (or any you have created or modified in the Pattern Editor) to a MIDI file for further manipulation.

Note It is not currently possible to import chords. The SKME will choose a note at random from any chord it finds present in the selection you wish to import.

To access the import/export functionality you need to do the following:

1 Open the Pattern Editor by pressing the Pattern Editor button on the top toolbar or pressing the Enter key when on the Patterns cell in View 5

2 Press either the Import or Export button

3 Select your options, described below, and press the Enter key

MIDI File importing

Name File button

Press this button to call up a File Open dialog, where you choose the MIDI file from which you wish to import.

Track Number

If the MIDI file is type 1 you can select the track number for the section you want to import; however, if the MIDI file is type 0 there will be only 1 track displayed and you will choose your MIDI sequence from the Line Number.

Line Number

For Type 1 MIDI files this will display the instruments playing on that track; for type 0 MIDI files it will show you every track.

From bar

Choose the bar from when you want to start the import (e.g. bar 10). This will default to the bar in the MIDI file when the instrument first starts playing.

Number of bars

Select how many bars you want to import.

Use Root

<numerical Note Value> <note> <octave scale>
e.g. 60 C4

SSEYO Koan Pro makes a best guess of the root of the MIDI file segment by looking at the lowest note in the section you are importing and presents you with this guess. If through the dialog you are importing a phrase which is in F# Minor and Use Root is displayed as 48 C3 (instead of 54 F#3 say, which you might expect) you should amend this value to F#3 to suit

the key of the phrase you are importing. See the Pattern Editor for the definition of how frequency numbers are displayed e.g. MIDI frequency of 60 is represented as C4.

Scale Rule

When importing a MIDI file fragment it is important for you to say what scale rule the SKME will use whilst performing the import. The SKME will look at the import selection note by note and try to match it to your scale rule. If it does not find the note in the scale rule it will 'round it down' to the nearest available note according to your defined scale rule. For example, if you import a phrase in a major key but use a minor scale rule any major 3rd will be 'rounded down' to minor 3rds (there are no major 3rds in a minor scale). This can lead to anomalies when your desired phrase follows scales that are different depending on melodic direction or if it uses a number of passing notes.

If you choose the ALL scale rule, then this would mean that every note is acceptable and your phrase will sound exactly as you would expect. However, if you use this rule and you wish to mutate the pattern over time, when the mutations occur they will be in the scale rule you have chosen, in this case ALL. You could therefore expect any note to occur in the mutation which might not fit in with your desired harmony structure!! Please refer to Scale Rules or the Patterns parameter for further information.

Import Pattern style

BOTH FREQUENCY AND RHYTHM or RHYTHM ONLY or FORCED FREQUENCY RELATIVE TO ROOT. Patterns are stored in strings of characters, and there are 2 types of strings; one which contains the frequency and rhythm information together (possibly forced to a certain base frequency), the other which only contains information on rhythm (i.e. when to play a note, not what the note will be). Please refer to the Patterns parameter for further information.

Quantize/ Round patterns

USE ACTUAL RHYTHMS or QUANTIZE SEMIQUAVERS or QUANTIZE TRIPLETS or SPECIFY RESOLUTION. The SKME will compose in intervals from 1/16th notes (semi-quavers) to Whole notes (semi-breve). This range has been selected to minimize the (already) heavy processing overhead required when carrying out real-time composition. When you import a MIDI fragment it will often have a finer resolution than this e.g. 1/32nd or 1/64th notes, or even non-quantized values but you can still keep these rhythmic values if you select USE ACTUAL RHYTHMS. However, it can sometimes sound odd to have a mismatch in terms of resolution, as the phrase you import may have more 'feel' than that which is composed because of the SKME's limitation described above. We therefore also provide the capability for you to quantize any notes imported to a multiple of a 1/16th (semi-quaver) note or a triplet by selecting QUANTIZE SEMIQUAVERS or QUANTIZE TRIPLETS. If you select SPECIFY RESOLUTION, then the specific resolution number that you supply will be used. **Note** : depending on the current Pattern Editor mode, you will be restricted as to which of these options can be selected.

Import Velocity Factors Relative To This Velocity Level

If you wish, you can specify that velocity information is imported along with the rest of the pattern information; relative to the specified velocity level. **Tip** : this can be useful for importing the "feel" of a pattern.

Only import notes for this MIDI drum (or frequency)

Use this option if you are importing from a file which contains an entire MIDI drum kit; but where you are interested in extracting only the information related to just the one specific MIDI Drum instrument. **Tip** : this can be useful for filtering-out unwanted information from MIDI drum files.

Extract button

Once you have made your choices press this button to extract the MIDI file pattern/ fragment. You will see it displayed in the character string format used by the SKME.

Apply Button

Press this button to copy the pattern to the Pattern Editor where you can hear it (by pressing the Play button). From here you can save it to the Patterns parameter for your Voice.

Cancel button

Press this button if you do not want to import the pattern.

Pattern exporting

Export

Pressing this button will cause the pattern to be saved to a MIDI file;.a File Save As dialog is called up, where you name the MIDI file you want to save the pattern to.

SSEYO Koan Pro makes a best guess of the root of the MIDI file segment by looking at the lowest note in the section you are exporting uses this value. Similarly, the current scale rule is used to determine the MIDI pattern to write.

SSEYO Koan Pro exports MIDI files in Type 0 format.

See also

Patterns
Tutorials
Scale Rules
Pattern Editor

Chapter 10 - Using Listening Voices

Building Your First Hyper-Instrument!

Firstly, you must ensure that you have a soundcard, to which you have connected a MIDI controller using a MIDI cable. MIDI controllers can take many forms, including piano-style keyboards, MIDI guitars and MIDI drum kits. SSEYO Koan Pro can respond to any one of these devices. If your MIDI controller does not have the capability to create sounds on it's own (e.g. it does not contain a built in synthesizer), then don't worry, this is not a problem. SSEYO Koan Pro will create the music for you, in response to whatever notes you play.

Example 1:

A simple chord generator

1. Either create a new Koan piece (use File New), or take a piece you have already created.
2. Create a voice of type Listening
3. Set your MIDI controller to send on channel 1
4. Set the MIDI channel of the Koan listening voice to 1, to match your external MIDI keyboard
5. Set the Chord Depth parameter to say 6
6. Start the piece playing
7. Play along with your MIDI instrument!

Tip: You will notice that wherever you play a note the ensuing note or chord will have roughly the same starting pitch(es) and spread (i.e. if a chord has been defined, how "wide" it is). To change the starting pitch and pitch range over which the notes will play you may wish to increase the **Pitch** and Pitch Range parameters which determine this. If you wish to vary the spread of the chord, use the Chord Pitch Offset parameter.

You should be able to hear both your own MIDI music playing along at the same time as Koan generated music. If you have a special controller on your instrument, such as a pitch bender, then try using that - you will hear that SSEYO Koan Pro responds to controller information as well.

Troubleshooting

If you have a MIDI patch-caching soundcard that does NOT have any MIDI patches loaded by default (the Gravis Ultrasound is an example of this), then you will have to tell SSEYO Koan Pro to load up patches for you. See the section below on the Fixed Volume Input Line parameter, to see how to do this.

Example 2:

Playing a note on the keyboard and having it generate an auto-arpeggiated chord.

1. Create a Listening Voice which responds to MIDI line 1; along which line your MIDI controller sends it's information.
2. Make it autochording by setting the Chord Depth parameter to say 6 and set Chord Delay to 15.

3 Start the piece playing and play your MIDI instrument (the chording will only occur so long as you have the key depressed).

Example 3:

Split Keyboard

Whenever you play a note in the bottom-half of the keyboard, you hear an block piano chord based around that note: Whenever you play a note in the top-half of the keyboard, you will hear an organ play a single, echoed note with an echo effect.

1 Create a Listening Voice which responds to MIDI line 1; along which line your MIDI controller sends it's information and set it to use a piano Patch

- Make the voice autochording with an autochord delay time (as above).
- Define the voice to have a Listen To Pitch Minimum of 1, and a Listen To Pitch Range of 39 - so this MIDI line listens to pitch values of 1 to 40.
- Set the Pitch (View 1) to be a value such as 40, with a Pitch Range of 24 (two octaves).

2 Create a second Listening Voice which responds to MIDI line 1 and set it to use a piano patch.

3 Do not make the voice autochording.

4 Define the voice to have a Listen to Pitch Minimum of 40 - so this line listens to pitch values of 40 and up.

5 Mute the voice.

6 Create a Follows voice, and set Follow Named Voice to the name of the second Listening Voice (step 2)

7 Make this follows voice autochording (as example 2) and set the patch to be an Organ.

8 Set the Chord Velocity Factor to be -15 to create a velocity decay across the chording notes, and set Chord Strategy to be "Interval Within Scale Rule" to create a small echo decay like effect. If you set the Chord Shift/Interval parameter to a non-zero value you would get a do-re-me scale like effect as the pitch goes up or down (when it is 0, it forces the note to be the same, hence the echo-decay effect).

Example 4:

MIDI dum kits

When you play note 43, play note 43 with a long drum roll effect; When you play note 44, actually play one instance of note 53.

1 Create a Listening Voice which responds to MIDI line 10; along which line your MIDI Percussion controller sends it's information.

- Define your voice to play patch D43.
- Define the voice to Listen to the specific MIDI patch pitch by setting Listen To Pitch of Patch Only ? to Yes
- Set the Chord Depth parameter to say 10 with a very short Chord Delay Time of say 4.

2 Create a Listening Voice which responds to MIDI line 10.

- Define your voice to **play** patch D53 (by setting the standard Patch parameter to this value).
- Set the voice to be Listen To Pitch of Patch Only ? = Yes and then setup the Listen To Pitch Patch Override parameter to have a pitch of 44 (this is the pitch it will **listen** out for).

Trouble-shooting and tips:

1 To use a Listen voice, you MUST set the MIDI Channel parameter to a value other than 0

2 If you do NOT have a velocity sensitive MIDI keyboard or MIDI drum kit, then set try setting Listen Use Koan Velocities ?to Yes (it will then use the Koan velocity envelopes). Very useful for getting "feel" if you have a non-velocity sensitive keyboard.

3 To follow individual notes on the drum line (10), e.g. for a MIDI drum kit, set the "Listen To Pitch of Patch Only ?" parameter to Yes. To trigger your voice drum of e.g. D53, but from patch D46, set Listen To Pitch Patch Override to 46.

4 If you want to use PITCH SPLITTING on the same MIDI line : to trigger *different* patches (unless you are using the drum line 10, and are following individual drum patches) : mute the listening voice, and construct a following voice to play with the "real" patch you want to hear for that keyboard split. (NB : keyboard velocity currently is not inherited by following voices).

5 To allow any note to be played in any scale ... but followed only by valid other notes ... : have a listening voice with a scale which allows every note. Follow with a voice which uses the correct scale !

6 Repeat voices might not sound as you expect - we would not necessarily recommend that you repeat a listening voice, either directly or indirectly.

7 Follow or chord percents other than 100% might not work as you expect.

8 If you hear no sound, then please make sure that :

- your MIDI controller is properly connected to your soundcard
- you are playing your Koan piece, and that your soundcard volume levels are all turned up.
- you have defined the correct "Fixed Volume Input Line" to match the MIDI Line along which your controller is sending information.
- your voice is not muted, and the volume and velocity envelopes are turned-up.

9 If when you play a note and you cannot hear it, you might need to set the "Listen Allow Illegal Note" parameter to Yes. You might also want to review the scale and harmony and next note rules used by that Listening voice : the notes you play are checked against these rules, to ensure that you do not play notes that you do not want !

10 If you play a note, and hold it for a long time, the note will eventually stop automatically. This is built-in to the SKME.

11 If you have a voice listening to a given MIDI line, then this overrides any auto-harmonize that you may have set-up for that MIDI line using the "Fixed Volume Input Line" functionality.

12 This feature is monophonic. So, playing many notes simultaneously on you MIDI controller, may not work quite as you intended. Polyphonic events may be simulated by setting-up keyboard splits.

13 The responsiveness of the system, is limited mainly by the speed of your PC. Slower machines might occasionally miss notes.

14 Voices which follow a MIDI line, do not "inherit" velocity information from the driving (listened to) voice.

See also

Parameter List
Parameter Utilisation Guide
Views and User Interface
Quick Tutorials
Further Examples and Demos

Turning SSEYO Koan Pro Into an Effects Processor…

Note You can also do this offline by importing a MIDI file into the Pattern Editor and applying your effects to the pattern. This does the same thing, but it is not "live".

You will either need a MIDI loop back cable (facility to take MIDI out from your soundcard and feed it back into the MIDI in) and a sequencer package on your computer; or, an external sequencer and MIDI connection cables

1. Open SSEYO Koan Pro and create a Listening voice (see creating a hyper-instrument) with MIDI channel set to 1.
2. Set the Listen Adjust Valid Notes (View 6) parameter to 'Yes' so that you can be sure it will play something if your scale rule does not match that of the notes of your MIDI file.
3. Select Setup Options from the menu and set up your MIDI Input Device to be, say, SB16 MIDI In (220) and the MIDI Output Device to be your soundcard.
4. Start SSEYO Koan Pro playing.
5. Now, set up your sequencer so that its MIDI Out is, say, SB16 MIDI Out (220), and play the MIDI file. You should hear the SKME playing along. Whatever you hear you can record to a MIDI file!
6. Now, use your imagination and apply treatments and effects like filtering (with the User Micro-Controllers), chords, delays, velocities - you name it! Have a look at the Quick Tutorials to see some of the tings you can do. You can use this as a great way for creating content - fast!

Yep, SSEYO Koan Pro is also a live effects box!!!

See also

Building Your First Hyper-Instrument
Parameter List
Parameter Utilisation Guide
Views and User Interface
Quick Tutorials
Further Examples and Demos
MIDI File Recording

Chapter 11 - MIDI and MIDI Books

MIDI, General MIDI (GM), MIDI Channels and More

MIDI

MIDI stands for Musical Instrument Digital Interface, and in normal everyday use MIDI generally refers to a special way in which computers can talk to synthesizer and other electronic musical instruments. It is a musical language, if you like, which enables your computer to tell your soundcard what notes to play and when to play them, amongst other things.

MIDI Files

If you collect up and save all these MIDI instructions to disk you create a MIDI file, which is basically an electronic version of a musical score. The MIDI file contains all the information necessary to play back the music, including information on which instruments are used, what notes they play, how loud or quiet they should be and which MIDI channel they are played on etc. There are many software notation packages that can turn this electronic score into a printed musical score.

General MIDI

There are many different manufacturers of soundcards and synthesizers and in the past each manufacturer located different instruments or sounds (e.g. Bass guitar) in different places. Trying to find the same instrument on various synthesizers was a bit like trying to find a can of beans in different Supermarkets - not easy because they all stacked in different places. This situation meant that a MIDI file would generally sound completely different when played by each system. The solution was for the manufacturers to agree a standard layout for certain specified standard set of sounds - they called this the General MIDI (GM) standard.

General MIDI is now a world standard and it means the soundcard and synthesizer manufacturers decided on 128 instruments (or 'patches') that would be put in the same place on all their offerings. No matter which sound system you use, you will always find these 128 'patches' in the same place. This allows MIDI files to sound roughly the same when they are played back, no matter what General MIDI soundcard or synthesizer is used to create them or play them. For examples, patch no 19 will always be a Rock Organ sound (or nearest equivalent) no matter what the soundcard or synthesizer.

However, not everything is golden. We all know that each brand of beans tastes different. Some are better than others. Some are premium quality, some are not. This is the same with patches. A piano sound is not the same on all soundcards or synthesizers - even though it is called a piano and in the same place on all these sound systems. There is also a wide variety in the quality of sounds available on each sound system. Some may have good pianos but not very good basses. Others may have good basses but not very good drums, and so on. So, at the end of the day, the better the quality of your soundcard or synthesizer the better the quality of the sound - and generally this is in direct relation to how much you spend!!

GS and XG MIDI

General MIDI is not the end of the story though, because it only refers to 128 standard sounds. There are also many ways you can treat these sounds (e.g. reverb, chorus, pitch filtering etc.) and each sound system has different capabilities and different ways of doing these things. Also, many people want to use their own special sounds so 128 'presets' can be very limiting. Enter GS/XG. Roland tried to extend the GM capabilities with a more advanced

MIDI standard called GS, and Yamaha have gone further with XG. Both of these allow you to define "patch banks" (amongst other things like extended sets of controllers for varying the effects applied to the sounds). In both systems each patch (of which there are 128 in GM) can have 128 variations. Creative Labs have also created their own SoundFont standard, where you can load up your own custom sounds (just like you can choose the fonts in a document). Both SSEYO Koan Pro and SSEYO Koan X support voices / templates that use GS/XG, and they also have built in support for SoundFonts.

SoundFonts

SoundFonts add another twist to the story. A SoundFont is quite literally the equivalent of a typeface, except in the sound arena. A SoundFont allows you to customize the sounds your soundcard uses by replacing them with different and unrelated sounds. For instance, you could replace your in-built GM/GS/XG Acoustic piano sound with that of an airplane, or a fat analogue bass synth sample. This facility is actually very useful for creating contemporary music, where your palette of sounds is as important as the notes you play. Imagine all documents were in Arial typeface (like this help file), or printed out on a typewriter….

A SoundFont is essentially a sound sample (e.g. a WAV file) converted to a special format to be loaded into your soundcard. And here is the rub, you need a special soundcard to do it. SoundFonts were pioneered by E-mu, now a wholly owned subsidiary of Creative Labs. So, only their soundcards (in particular the AWE32 / AWE64 / SB32 / SB64) support them. But, having one of these cards does turn your PC into a fully functional sampler, and many people now have one of them. The good news is that the SKME and Koan Pro have fully integrated and seamless support for SoundFonts, making Koan Pro the perfect tool for creating contemporary and custom generative music.

Top end gear….

Really top end synthesizers allow musicians completely to synthesize, tailor and treat the sounds they create and use in hundreds of ways. The good old GM standard 'map' has no real role to play for these sonic pioneers, which means that - even though they use MIDI - they will record their work to audio for sale, because not everyone has exactly the same expensive musical setup as them…….

Note Some cards do not even provide the full complement of 128 GM sounds, in which case the manufacturer will generally provide a MIDI Mapper patch map which diverts those patch numbers to their nearest equivalent.

MIDI channels

Windows has in-built support for 16 MIDI "channels". To grasp the significance of the MIDI channels, simply imagine you have 16 people, each playing an instrument, and they each have their own TV channel. Naturally, if they are all playing at once and you wish to hear them then you will need to tune in to 16 channels at the same time. Now for this analogy, in MIDI terms, your soundcard is your TV. It has no problems receiving and playing back 16 channels at once (unlike you TV which can only display one channel at a time!!). However, sometimes musicians do not want their PC soundcard to play back all the channels. There are many reasons for this, the main one being that musicians often want access to the widest possible range of musical sounds and treatments. So, they may well will want to hook up a MIDI channel to an external synthesizer, or in the most extreme case, each MIDI channel to a different synthesizer. Therefore, Windows has the in-built capability for you to assign each MIDI channel to a specific synthesizer - rather than using the default setting which is to use your soundcard for all of them.

Naturally, in SSEYO Koan Pro you can specify the MIDI channels to be used by each voice, or you can even let the SKME decide for you.

Setting Up the MIDI Mapper/MIDI Instrument

Windows 3.1 and General reference (Win 95 below)

Note We recommend you use the Windows 3.1 or 3.11 MIDI Mapper, but we will pick up any other Windows MIDI driver if the MIDI Mapper is not installed.

The MIDI Mapper is a very useful Windows utility and it makes it easier for software to communicate with your sound card or MIDI interface card. It acts as an intermediary through which Koan Pro talks to your sound card. It's basically one big patch map (or post office) which allows you to match up your sound card with any software generating a MIDI output. Koan Pro supports the General MIDI standard, so, if not already set-up in this mode, you will need to set up the MIDI Mapper to match this standard.

Incidentally, Windows 3.1 supports a number of sound cards/devices, and these are currently the Creative Labs Sound Blaster v1.0/ v1.5, Roland MPU401, Roland LAPC1, Ad Lib, Media Vision Thunder Board etc. If your card/interface is not apparently supported by Windows then the card/interface manufacturer should produce a 'driver' that allows it to talk to the MIDI Mapper. To see the list of drivers supported (and to make sure your sound card is configured properly) select the Drivers icon in the Program Manager Control Panel. If your card is not already set up, refer to the card/interface maker's instructions.

The MIDI Mapper comes with 4 patch maps as standard: MT32, MT32 perc, Prot/1 and Prot/1 perc. The MT32 perc is actually set up as the General MIDI patch map (quite obvious really), but for the example below we are going to assume that you have a Roland SCC1 card fitted, and you need to create a patch map for this card.

We have chosen this card to represent the case of those cards which do not have a preset setup in the MIDI Mapper. Although you may be able to follow the example, we do recommend that you have a quick read through the section on the MIDI Mapper in the Windows manual before proceeding.

Note You should also follow the instructions provided by the supplier of your sound card/interface, because you may need a special set-up for some cards which do not always support the 128 General MIDI sounds.

Double click on the Control Panel icon in the Program Manager, and then double click on the MIDI Mapper (if there is no MIDI Mapper, then you have not properly set-up your sound card, or there is no sound card installed - refer to the Windows manual).

Windows 3.1 MIDI Mapper

Select Show Patch Maps and open the Name drop box. You will see there is no General MIDI set-up up so we are going to create one.

Select New and in the Name and Description boxes type General MIDI, then press OK.

You are presented with a table with the headings Src Patch, Src Patch Name, Dest Patch, Volume %, and Key Map name. We want to set up a General MIDI patch map, and this entails matching the Src Patch to the Dest Patch.. Kindly, this is the default. Press the button at the top (which toggles between '1 based patches' and '0 base patches') so that the first Src

patch is 1, which corresponds to acoustic grand piano. Make sure the Key Map name is 'none' and press OK.

Next, select Show Setup and open the Name drop box. You will see there is no General MIDI set-up (however, Extended MIDI really is General MIDI, without the Patch Map set up properly!) so we are going to create one.

Select New and in the Name and Description boxes type General MIDI, then press OK.

You are presented with a table with the headings Src Chan, Dest Chan, Port Name, Patch Map Name and Active. The Src and Dest Channel matchings are beyond the scope of this manual, but we are going to pair 1 with 1 , and 2 with 2 etc. The Port Name is the driver you have set up to talk to your sound card.

Go through each of the 16 Src Channels and set Port Name to the driver your card is using (e.g. MIDI 401 for the SCC1), and Patch Map name to the General MIDI patch map we have just made. Make sure all of the Active boxes is ticked.

Note SSEYO Koan software generally requires that channel 10 is reserved for drums/percussion.

Your sound card should now be ready to work with SSEYO Koan software.

Windows 95 / Windows NT 4

In Windows 3.1, the "MIDI Mapper" (please refer to Windows 3.1 section above for further background information) is the name used to refer to the default MIDI device, to which SSEYO Koan Pro (and other music software) typically sends the MIDI commands, that create the music that you can hear from your synth or soundcard.

It is called a "Mapper", because it may either map MIDI commands directly onto either one specific soundcard device (such as the AWE32 device driver), or even onto a complex combination of devices split by MIDI line (e.g. the AWE32 for MIDI lines 1 through to 6, and an SB16 for the remaining MIDI lines). The custom multiple mapping ability is still available in Windows 95.

Unfortunately from the point-of-view of the typical user (i.e. you !), the "MIDI Mapper" has had it's name changed for Windows 95 / NT 4, to be the "Single Instrument" MIDI output, i.e. the MIDI Instrument. We say "unfortunately", because the name change was not complete - the device name as returned to our program's setup dialog, and reported to you is still the "MIDI Mapper" - this is still the name that we have to use internally - and not something that you will find referred to in any of your Windows 95 / NT 4 documentation ! This causes all sorts of confusion ...

You can define the MIDI Instrument through selecting Settings | Control Panel | Multimedia | MIDI. The instrument that you specify here, is that used when you specify "MIDI Mapper" as your Koan MIDI Output device. You will normally find a device driver listed in this dialog for your soundcard (e.g. "MIDI for Creative WAV Effects Synthesis" or "MIDI for internal OPL2/OPL3 Synthesis"); or, if you want to send the MIDI instructions to an external MIDI synthesizer, you should set this driver to be "MIDI for External MIDI port".

If you want to set up a custom MIDI map in Windows 95, so that you can send MIDI information to a combination of MIDI devices split by MIDI line (e.g. the AWE32 for MIDI lines 1 through to 6, and an SB16 for the remaining MIDI lines), then you need to select Settings | Control Panel | Multimedia | MIDI and choose the Custom Configuration MIDI scheme. It is fairly straightforward to create your own map. If you get stuck, we suggest you check out the relevant Windows 95 help section (MIDI Instruments).

MIDI Books and How To Use Them

MIDI Book Overview

A "MIDI Book" is a plain text file used by SSEYO Koan Pro 2, which lists certain key (and complex) general purpose and soundcard-specific MIDI commands in a format that you can drop-in to your Koan pieces. You may edit these files yourself, perhaps to accommodate special requirements of your particular soundcard or MIDI soundsystem. This feature also provides a certain degree of additional future-proofing to the SSEYO Koan Pro design. MIDI Books are stored in the MIDIBOOK subdirectory.

The MIDI books are used to specify special MIDI commands to use, for the following parameters :

Piece Initialization MIDI Command

A command to be sent when the piece starts playing, before any MIDI commands are sent for any of the voices. Note : if you use this parameter to store a XG Variation from one of the DB50 MIDI books, then your piece Yamaha XG System On will have to be set to "Yes".

Voice Initialization MIDI Command

A command to be sent when the voice is initialized, before any other MIDI commands are sent for that voice. Note : if you use this parameter to store a XG Variation from one of the DB50 MIDI books, then your piece Yamaha XG System On will have to be set to "Yes"; and you will also have to change the XG Variation level parameter for the voice, to the appropriate level.

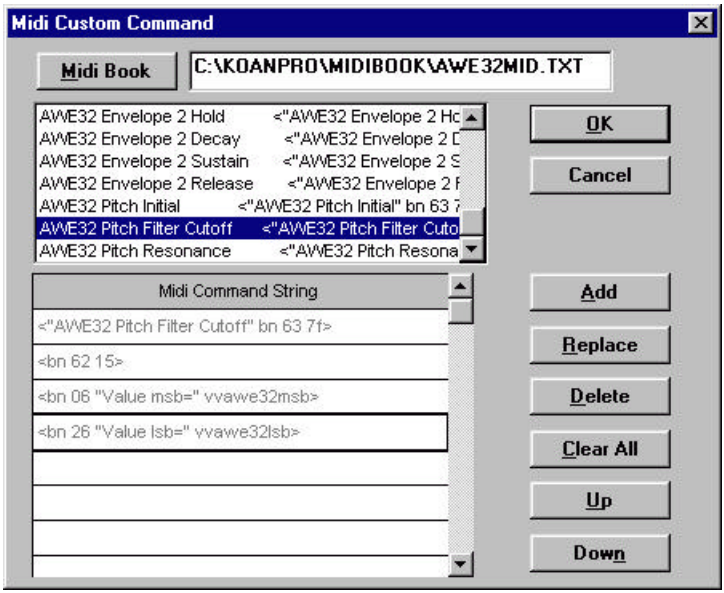
User MIDI Controller 1 MIDI Command

A command that may be generated and sent continuously, as the voice plays; which will follow the value of an internal "waveform generator".

User MIDI Controller 2 MIDI Command

Another command that may be generated and sent continuously, as the voice plays; which will follow the value of an internal "waveform generator".

Using the MIDI Book Dialogs



When you press the button () to edit any one of the above MIDI Command parameters, a MIDI Custom Command dialog is displayed (shown above). You may pull-in any number of commands from one of the MIDI Books supplied with SSEYO Koan Pro. You may chain together commands, such as having both Portamento and Reverb change in response to User Controller 1 for example; or for another example, have two or 3 different filter sweep commands sent out for a microcontroller, to ensure that your filter sweep works on different soundcards with different MIDI controller responses (this is a trick we have used in many of our own templates for Koan X). The list of commands that you have specified, is displayed in the MIDI Command String area at the bottom of the MIDI Custom Command Dialog.

The dialog has a number of features that you may use :

MIDI Book

Press this button to select the MIDI Book from which you wish to extract MIDI Commands. A list of commands in the MIDI Book file is displayed, in which you may highlight commands of interest.

Add

Press this button to add the current selected MIDI Book command list entry, to your to your MIDI Command String list.

Delete

Press this button to delete the current MIDI Book command from your MIDI Command String list.

Replace

Press this button to replace the contents of you current MIDI Command String list selection with the current the highlit entry in the MIDI Book command list.

Clear All

Press this button to clear all the MIDI Command String cells.

Up

Press this button to move the current MIDI Command String cell up one position in the list.

Down

Press this button to move the MIDI Command String cell down one position in the list.

Note that you may edit the contents of any of the MIDI Custom Command cells by hand by pressing the ENTER key when a cell is selected (you can select the appropriate MIDI command parameter cell by using the tab or arrow keys to move to it). However, we recommended that only **advanced** users who are fully conversant with the MIDI Book command syntax attempt this.

Looking at the MIDI Book files (MIDIBOOK*.TXT)

Using a text editor such as Notepad, take a look at the MIDI book files (*.txt) that shipped with your Koan Pro installation (you will find these in the MIDIBOOK subdirectory / folder). Each of the files lists a number of MIDI command sequences, one per line, that follow the syntax set out in the following paragraphs. Note : this text assumes that you are familiar with MIDI command sequences, and are conversant with both Hexadecimal and Decimal number notation.

The files you will see will include :

MIDIBOOK.TXT	standard General MIDI controllers, work on most soundcards.
AWE32MID.TXT	voice-level controllers for the AWE32/SB32/AWE64/SB64
DB50MIDI.TXT	piece-level controllers for the Yamaha DB50 XG etc. Some of these work on the Terratec and other soundcards.
DB50VOIC.TXT	voice-level controllers for the Yamaha DB50 XG, in considerable detail ! Some of these work on the Terratec and other soundcards.
SCC1MIDI.TXT	primarily piece-level controllers for the Roland SCC1 and compatibles. Many of the above work on the Yamaha DB50 XG and other soundcards.
DB50VARI.TXT	piece-level controllers for the Yamaha DB50 XG, mainly various effect variations, in considerable detail. Many of the above work on the Terratec and other soundcards. NOTE : All of the variations in DB50VARI.TXT require you to have set the Yamaha XG System On to Yes.

MIDI Book Command Syntax

Example : MIDI Book command line :

<”This is an optional comment” b43 nn 00>

Comments : On any one line, you may have one or more pairs of < > characters. These characters are used to “delimit” (or contain) sets of MIDI commands. If you have more than one MIDI command on one line, then each of the MIDI commands on that line will be sent in sequence to your MIDI Output device. Comments are enclosed almost anywhere on the line, in double-quote marks :

Numbers : All numbers (except for delay times) are in HEXADECIMAL. The maximum length of any command sequence is around 11 or 12 bytes pairs, depending on the context. See the MIDI book files for examples of what you can achieve in practice (pretty much everything, with the exception of some very long SYSEX commands). This limit is currently forced on the SKME due to reasons of backward compatibility, we hope to address this in future versions.

Special characters : Note that **f** represents any hexadecimal digit you want (e.g. 0-9 or a-f).

all other characters are as written.

ff standard command, where f is any hexadecimal digit you want (e.g. 0-9 or a-f). This value is used as written. Be careful to supply PAIRS of characters, so use 05 rather than 5, or 0f rather than f. For example, 53, a0, ff.

fn n is the literal character n - used by the engine to substitute-in the **MIDI line number** actually used by the voice. For example, 4n would be interpreted such that if the "real" MIDI line is 9, (always from 0-15), then the MIDI value which really gets written, would be 49. **Tip :** this is how MIDI Book commands get directed to the correct MIDI Line

rr Substitute the current drum instrument number, as used by the voice. Only relevant for voice-level parameters. For example, if the current voice patch were "D53", then the decimal value 53 would be substituted for these two characters. **Tip :** this is of use only for soundcards which allow drum-patch specific MIDI commands, such as the Yamaha DB50-XG (see Filter Cutoff Frequency).

vv Only relevant for user controllers. The engine substitutes the current user controller value across two bytes. For example, if the current user controller is currently at a value equal to decimal 64, then the hexadecimal value of 40 would be substituted for these two characters. **Tip** : this is **at the core** of what enables user-controller filter sweeps and other effects for most soundcards !

vvawe32msb Creative Labs AWE32/AWE64/SB32/SB64 msb calculation. A complex algorithm is used internally to generate the correct MIDI byte value to use. **Tip** : this, together with the vvawe32lsb command, is **at the core** of what enables user-controller filter sweeps and other effects on the AWE32/AWE64/SB32/SB64 ! **Note :** this also works on any EMU8200 compatible soundcard, provided you have the EMU 8200 check box checked in the Setup dialog.

vvawe32lsb Creative Labs AWE32/AWE64/SB32/SB64 lsb calculation. A complex algorithm is used internally to generate the correct MIDI byte value to use.

cs=1 Use check-sum algorithm 1 (a complex check sum, used for various Roland SCC1 and other master controllers parameters !). **Tip :** see SCC1MIDI.TXT for examples of how this is used.

DEL=50 Guarantee a 50 millisecond delay before the next MIDI command (AFTER the command). Note that the number (50 in this example) is a DECIMAL number of MILLISECONDS.

See also

Further Examples and Demos
Quick Tutorials
Pattern Editor

Chapter 12 - Koan Pro ⇔ Koan X

How To Create Style Templates for SSEYO Koan X

A Style template in Koan X terminology is typically an piece with no voices, for which you have defined a number of rules and piece-level parameters, and to which you then add voices/templates in order to create a finished piece/mix.

To create a Style template :

1 Create an SKD file (usually with no voices in it) with the piece level parameters, and other rules that you want to use.

2 Put it under your SSEYO Koan X template directory, e.g. :

C:\KOANX\TEMPLATE\MYPACK\MYSTYLE.SKD

3 If you want to ship this style file, then be sure to :

A) Set the piece-level information, such as copyright, enabling recording, and image. The piece description and Image will be displayed to a user of SSEYO Koan X Platinum, when File New is selected, and a list of styles are presented to selected from as the basis for a new piece. (See the section below on constructing templates for SSEYO Koan X, to see how to specify the Image parameter).

B) Do NOT ship the file as a protected template, or other people will not be able to change information in which they are interested !

How To Create Templates for SSEYO Koan X

A Template file in Koan X terminology, is typically a Koan piece containing one or more voices, and possibly some special rules which are designed to follow those voices around as the voices are added to other pieces by SSEYO Koan X.

To create a Template file :

1 Create an SKD file with one or more voices in it that you like.

2 Put the file under your Koan X template directory, e.g. :

C:\KOANX\TEMPLATE\MYPACK\MYSTYLE\MYGROUP\MYTEMP.SKD

3 You can then use Koan X to drop-in the contents of that “template” file to any piece you are working on.

4 To change the image to be used by the template, in the Piece Details dialog, set the Image parameter to be something like :

file = ”drum1.bmp”

where drum1.bmp must be a 16- or 256- color bitmap file in the Koan X images directory (e.g. C:\KOANX\IMAGES).

Note that when you drop the template into a piece, Koan X will set the Voice Image parameter to be the same as was defined at the piece level; you can subsequently change this parameter in exactly the same way.

5 If you want the template to be either savable to SKP files, or recordable from either Koan X or Koan Pro, be sure to set the Voice-level parameters “Save to SKP” or “Recordable?” accordingly.

6 If you want to allow the template to be redistributable within an SKD/SKT file then set the Voice-level parameter "Redistribute in SKD/SKT?"accordingly.

7 If you want to ship the template in "protected" form, be sure to set the correct copyright, piece notes, description etc. information before Saving as a Protected SKT file. Be sure to ship the PROTECTED .SKT file rather than your master .SKD file !

8 If you want to provide your template for others to use with SSEYO Koan X, you can add different text details that get displayed in different places:

A) The Piece Name you add to the Piece Details dialog will be what the template is called, and is what they will see in the list selection box of the SSEYO Koan X Add Template panel (generally on the right) as the template is reviewed for selection.

B) Information you add to the **Piece Notes** section of the Piece Details dialog will be displayed in description text box of the SSEYO Koan X Add Template panel as the template is reviewed for selection. Note: Any **Mix Notes** you add at this stage in the Piece Details dialog will also appear, so we recommend you leave this field blank.

C) When the template is added to a piece/mix, e.g. by dragging it in, then the value of the Notes parameter for the **FIRST VOICE ONLY IN THE TEMPLATE FILE** is displayed in the SSEYO Koan X Template Information panel (generally on the left).

D) To define what copyright information from your template gets saved to an encrypted SKP file (and which can be see in the Piece Notes details when playing them with a Koan Player), use the Copyright parameter.

E) Note: Other text information can be saved in a Koan piece, but this is not used by templates. It is for your own use when creating custom SKD files and saving them to SKP pieces (e.g. for the web). Information in the Piece Details dialog (A + B above) is simply saved to the piece, and information from the Copyright parameter (D above) is appended to any Piece Details information you have added [the Notes parameter values (C above) are not visible in an SKP file]

F) Be sure to set this information as you like it!

9 It is possible to create a template so that it carries its rules with it (i.e. you do not want the template to adopt the scale rule selected by the user, or any default piece level rules set in the style template). To do this you MUST give each of these "voice- specific" rules the same name as the corresponding voice. E.g. if your voice is called piano1, then all the rules you wish to accompany the template when dragged into the SSEYO Koan X mix area must be called piano1.

SoundFonts: An important technique can be used to great effect with SSEYO Koan X Platinum and Koan X Gold, which is where the Patch parameter is specified in such a way as to automatically load-up a SoundFont patch or a WAV file when the template is added to a mix.

If you define a template for Koan X, which you really want always to be played at a specific tempo when added to a piece, then define the Breakbeat ? parameter to have the value "Yes"; and set the **Tempo** parameter to the tempo value you want. Then, when the template is dropped into Koan X, the tempo of the piece will change automatically to the specific value requested.

Note 1*:* If you make a template that uses multiple voices, and where multiple voices require use of the same special rhythm rule, then be *sure* to DUPLICATE each such rule and give each of those duplicate rules (and voices !) different names, that match the name of the corresponding using voice. This is because when such templates are copied into a piece by Koan X, the voice might have to be renamed to ensure uniqueness of voice names within the "copied-to" file; in which case, the matching copied-in rules are renamed as well to match the renamed voice names. Similarly, in SSEYO Koan X when a template is removed from a piece, any rules which match that

voice by name might be removed automatically, if they are not otherwise used within the piece..

See also

Copyright
Recordable?
Redistribute in SKD/SKT ?
Save to SKP ?
Voice Image

Swapping Files Between SSEYO Koan X / Koan Pro

Files may be interchanged freely between SSEYO Koan X 1.0 and SSEYO Koan Pro 2. If you have created a file with SSEYO Koan X, and subsequently open that file with SSEYO Koan Pro, you will notice the following things:

1. New voices will have appeared that you might not expect to be there. These are referred to as "wrapper voices", and have the Voice Group parameter set to either "0- Begin" or "1- End". When a template is added to a mix, SSEYO Koan X adds these wrapper voices to "hide" the contents of any multi-voice/mulitpart templates that need to keep internal relationships consistent (e.g. from a drum-kit template, which will have lots of drum voices in it, or a voice which follows another). You can set the "Voice Group" parameter yourself, and add Begin / End "wrapper" voices yourself (e.g. if you specifically wanted to create a piece that would be mixed in SSEYO Koan X) ... PROVIDED that you MATCH Begin and End voices together - with the Begin voice always occurring BEFORE the End voice in the file. If you do not do this, then you might cause Koan X to crash when it opens your file !
2. Some parameter cells might be "blank". This is because these parameters have been **Protected by being saved within a protected SKT file**.

Note 1*:* Any pieces created with SSEYO Koan Pro 2 which include LISTENING VOICE parameters, and where those files are subsequently opened and saved with SSEYO Koan X, will lose those parameter details. A "patched" version of SKME3.DLL is supplied to correct this, which, should you have a copy of SSEYO Koan X, you should use to copy-over an existing copy of SKME3.DLL that comes with it (if the copy you already have is of an earlier date than the version supplied with SSEYO Koan Pro).

Editing Protected Files

If a piece, or the contents of a piece, is protected, you will see that the **hidden** parameters in that piece are displayed by SSEYO Koan Pro as empty cells. You can neither see nor edit any of these hidden parameters. You may, however, edit any of the other parameters that are *not* hidden, and you may mix-and match "hidden" voices between files. Note, however, that the original piece will still be protected even if you do amend the visible parameters - and this means all the piece level information. If you do need to change any of the piece level details, you can copy a protected voice and then copy it to a non-protected file. However, this voice will remain protected even in the other file, though the piece-level parameters will of course not be hidden (until you protect *that* file).

Files created with SSEYO Koan X will typically contain protected voices; this is because the template packs sold with SSEYO Koan X are usually protected.

Creating Protected SKT Template Files

Create Protected SKT File Command (File Menu)

Use this command to save your file in a format that hides almost all of it's content; other than a small sub-set of parameters used for mixing (including Mute, Volume, Pan). The file is saved with an extension of "SKT" (SSEYO Koan Template file), and is intended primarily so that you can safely distribute your pieces for use within Koan X, without the worry of others working out how you constructed your files!

This menu option lets you save your Koan pieces and templates in a "protected" form. Artists can use this format to create pieces for others to use or remix, and particularly to create templates for SSEYO Koan X, as in this format other people cannot see how they have done their 'special tricks'. One example would be to provide protected .SKD files (saved as protected SKT files and then renamed to .SKD) with their own original Piece Details that can be read, but not edited. When someone remixes this piece in SSEYO Koan X they can add their own remix notes in the Mix Notes field of the Piece Details dialog. These notes are appended to the non-editable Piece notes when the file is saved.

Chapter 13 - Parameters

Parameter List

All the parameters available to SSEYO Koan Pro are displayed in a number of parameter groupings or views, to make it easier to find the parameter you wish to change. Below follows a list of available piece and voice parameters, followed by a list of soundcard specific parameters. See also the Parameter Utilisation Guide for a handy cross-reference table of parameters and voicetypes.

All the parameters support lists of values from which to choose each time the piece is played.

Note 1 Parameters identified with ^{Env} are those with envelopes.

Note 2 Parameters identified with $^{V2.0}$ are those new to SSEYO Koan Pro 2.

Note 3 WAV files using DirectSound 5 can only be affected by the pitch, patch, pan, volume, velocity and Koan ADSR parameters.

Common Parameters

Voice Name

Patch

MIDI Channel

Voice Type

Mute

Ambient Duration

Location

View 2

Description

Minimum time an ambient voice will play for when it is triggered.

Range of Values

0 to 32,000

Units can be 1/60th of a bar, milliseconds or full seconds, set with Ambient Units parameter.

Note 1000 milliseconds (ms) = 1 second

Typical value

5000 ms (5 seconds)

Note :

The Ambient parameters determine the durations of the notes and rests played by the Ambient Voice Type, but they still utilize the voice's Phrase Length, Phrase Length Range, Phrase Gap and Phrase Gap Range parameters to determine how the notes or rests are strung together. If you have the Voice Type set as Rhythmic it will follow the voice's Rhythm rule to generate the notes and rests. However, when a Voice Type is set to Ambient it will use the Ambient parameter values to substitute for the voice's Rhythm rule.

Say you have parameter values as follows:

Voice Type	Ambient
Phrase Length	4
Phrase Length Range	0
Phrase Gap	3
Phrase Gap Range	0
Ambient Duration	2 secs
Ambient Duration Range	0 secs
Ambient Gap	3 secs
Ambient Gap Range	0 secs

What would be played would be 4 notes (Phrase Length + Phrase Length Range) of duration 2 seconds (Ambient Duration + Ambient Duration Range) followed by 3 rests (Phrase Gap + Phrase Gap Range) of duration 3 secs (Ambient Gap + Ambient Gap Range). Changing the 'Range' parameters to be non-zero will add a random element to when the voice will play the note.

If you want only 1 note to last as a long drone (followed by a long rest and not other ambient notes as in a 'phrase') set the Phrase Length to 1, Phrase Length Range to 0, Phrase Gap to 1 and Phrase Gap Range to 0 . This gives you the following: Note, Gap, Note, Gap, Note, Gap etc.

See also

Ambient Units
Ambient Duration Range

Ambient Duration Range

Location

View 2

Description

Maximum time an ambient voice will play for above and beyond minimum value set with the Ambient Duration parameter.

Range of Values

0 to 32,000

Units can be 1/60th or a bar, milliseconds or full seconds, set with Ambient Units parameter.

Note 1000 milliseconds (ms) = 1 second

Typical value

10000 ms (10 seconds)

See also

Ambient Units
Ambient Duration
Ambient Gap
Ambient Gap Range

Ambient Gap

Location

View 2

Description

The minimum time before an ambient voice will play another note, i.e. after the last note has stopped playing it will wait at least this long until it plays another.

Range of Values

0 to 32,000

Units can be 1/60th of a bar, milliseconds or full seconds, set with Ambient Units parameter.

Note 1000 milliseconds (ms) = 1 second

Typical value

3000 ms (3 seconds)

Note 1 Ambient voices will generally start in a piece some time at random after the beginning, and this can be any time from when the piece starts up to the Ambient Gap plus Ambient Gap Range values.

Note 2: The Ambient parameters determine the durations of the notes and rests played by the Ambient Voice Type, but they still utilize the voice's Phrase Length, Phrase Length Range, Phrase Gap and Phrase Gap Range parameters to determine how the notes or rests are strung together. If you have the Voice Type set as Rhythmic it will follow the voice's Rhythm rule to generate the notes and rests. However, when a Voice Type is set to Ambient it will use the Ambient parameter values to substitute for the voice's Rhythm rule.

Say you have parameter values as follows:

Voice Type	Ambient
Phrase Length	4
Phrase Length Range	0
Phrase Gap	3
Phrase Gap Range	0
Ambient Duration	2 secs
Ambient Duration Range	0 secs
Ambient Gap	3 secs
Ambient Gap Range	0 secs

What would be played would be 4 notes (Phrase Length + Phrase Length Range) of duration 2 seconds (Ambient Duration + Ambient Duration Range) followed by 3 rests (Phrase Gap + Phrase Gap Range) of duration 3 secs (Ambient Gap + Ambient Gap Range). Changing the 'Range' parameters to be non-zero will add a random element to when the voice will play the note.

If you want only 1 note to last as a long drone (followed by a long rest and not other ambient notes as in a 'phrase') set the Phrase Length to 1, Phrase Length Range to 0, Phrase Gap to 1 and Phrase Gap Range to 0 . This gives you the following: Note, Gap, Note, Gap, Note, Gap etc.

See also

Ambient Units
Ambient Gap Range
Ambient Duration
Ambient Duration Range

Ambient Gap Range

Location

View 2

Description

The maximum amount of time before ambient voice will play another note above and beyond the minimum time as set with the Ambient Gap parameter.

Range of Values

0 to 32,000

Units can be 1/60th of a bar, milliseconds or full seconds, set with Ambient Time Units parameter.

Note 1000 milliseconds = 1 second

Typical value

10000

See also

Ambient Units
Ambient Gap
Ambient Duration

Ambient Units

Location

View 2

Description

This parameter determines which of 3 types of units the other Ambient parameters will use - 60ths of a beat, Milliseconds or Full seconds.

Range of Values

1/60th bar, milliseconds or full seconds

Note 1000 milliseconds = 1 second
60 1/60ths of a beat = 1 beat
240 1/60ths of a beat = 1 bar of 4:4
960 1/60ths of a beat = 4 bars of 4:4

Typical value

Milliseconds

See also

Ambient Gap

Ambient Gap Range
Ambient Duration
Ambient Duration Range

Attack

Note Only relevant for Yamaha XG/Roland SCC1 soundcard owners.

Location

View 15

Description

Sets the attack level for a voice's patch, determining how quickly the sound starts. Generally the patches you get on your sound card will be optimized to sound their best, but fast or slow attacks can create interesting effects.

Range of Values

50 to 50. 0 is the default setting for normal attack.

Typical value

0

AWE Chorus Variation

Note Only relevant for Creative Labs AWE32/AWE64/SB32/SB64 soundcard owners

Location

Piece view 3

Description

This parameter will allow you to select one of the chorus effect types available in the AWE Control Panel (refer to your AWE Control Panel manual for further information on these). You will need to select the **AWE Effect Type** parameter to be **0 - Reverb and Chorus** (if this is set as **-1 -Default settings** it will leave your AWE32/AWE64/SB32/SB64 chorus settings as they were). Any changes you make to the chorus setting will be applied immediately. The settings you choose in the Chorus(93) parameter (i.e. 0 to 127) will be applied to the chorus effect type you have chosen, and both settings are stored in the piece.

Range of Values

0 - Chorus 1, 1 - Chorus 2,..... 7 - Short Delay FB

Typical value

1 - Chorus 2

AWE Effect Type

Note Only relevant for Creative Labs AWE32/AWE64/SB32/SB64 soundcard owners

Location

Piece view 3

Description

This parameter lets you select which Effect Type you want your AWE32/AWE64/SB32/SB64 to use (refer to your AWE Control Panel manual for further information on Effect Types). Selecting **-1 -Default settings** will leave your AWE32/AWE64/SB32/SB64 chorus settings as

they were; **0 - Reverb and Chorus** allows you to select the settings for your card through the **AWE Chorus Variation** and **AWE Reverb Variation** parameters; and **1- Q Sound** will select this effect. The value of this parameter (and the other AWE32/AWE64/SB32/SB64 parameters) is stored in the piece.

Range of Values

- 1 - Default Settings; 0 - Reverb and Chorus; 1 - Q Sound

Typical value

0 - Reverb and Chorus

AWE EMU8000 Controllers

Note Only relevant for Creative Labs AWE32/AWE64/SB32/SB64 soundcard owners

Location

Views 12, 13 and 14

Description

There are 25 parameters in all, each one starting with "AWE" and they allow real time control of the EMU8000 LFOs, envelopes and filters. They are operated just any other controller in SSEYO Koan Pro. Further information on what each of these do is available in the Creative Labs AWE32/AWE64/SB32/SB64 FAQ, which is available from the Creative Labs BBS. We strongly recommend you read this as it gives you further details of the controllers and of the values they take. If you have a soundcard which uses an EMU8200 controller (e.g. TDK MusicCard, Creative Labs WaveBlaster II Daughterboard, EMU Music Card) then you can use the AWE parameters to control your soundcard. See the Setup Options dialog for information on how to do this.

Range of Values

Refer to AWE32/AWE64/SB32/SB64 FAQ

Typical value

As appropriate to the controller

AWE Envelope 1 Delay
AWE Envelope 1 Attack
AWE Envelope 1 Hold
AWE Envelope 1 Decay
AWE Envelope 1 Sustain
AWE Envelope 1 Release
AWE Envelope 1 Filter Cutoff
AWE Envelope 1 Pitch Shift
AWE Envelope 2 Delay
AWE Envelope 2 Attack
AWE Envelope 2 Hold
AWE Envelope 2 Decay
AWE Envelope 2 Sustain
AWE Envelope 2 Release
AWE LFO 1 Filter Cutoff
AWE LFO 1 Frequency
AWE LFO 1 Pitch Shift
AWE LFO 1 Start Delay
AWE LFO 1 Volume Shift
AWE LFO 2 Frequency

AWE LFO 2 Pitch Shift
AWE LFO 2 Start Delay
AWE Pitch Filter Cutoff
AWE Pitch Initial
AWE Pitch Resonance

The following information is provided courtesy of the Creative Lab's FAQ and remains their copyright:

The EMU8000 has its roots in E-mu's Proteus sample playback modules and their renowned Emulator sampler. The EMU8000 has 32 individual oscillators, each playing back at 44.1 kHz. By incorporating sophisticated sample interpolation algorithms and digital filtering, the EMU8000 is capable of producing high fidelity sample playback.

The EMU8000 has an extensive modulation capability using two sine-wave LFOs (Low Frequency Oscillator) and two multi-stage envelope generators.

What exactly does modulation mean? Modulation means to dynamically change a parameter of an audio signal, whether it be the volume (amplitude modulation, or tremolo), pitch (frequency modulation, or vibrato) or filter cutoff frequency (filter modulation, or wah-wah). To modulate something we would require a modulation source, and a modulation destination. In the EMU8000, the modulation sources are the LFOs and the envelope generators, and the modulation destinations can be the pitch, the volume or the filter cutoff frequency.

The EMU8000's LFOs and envelope generators provide a complex modulation environment. Each sound producing element of the EMU8000 consists of a resonant low-pass filter, two LFOs, in which one modulates the pitch (LFO2), and the other modulates pitch, filter cutoff and volume (LFO1) simultaneously. There are two envelope generators; envelope 1 contours both pitch and filter cutoff simultaneously, and envelope 2 contours volume. The output stage consists of an effects engine that mixes the dry signals with the Reverb/chorus level signals to produce the final mix.

What are the EMU8000 sound elements?

Each of the sound elements in an EMU8000 consists of the following:

Oscillator

An oscillator is the source of an audio signal.

Low Pass Filter

The low pass filter is responsible for modifying the timbres of an instrument. The low pass filter's filter cutoff values can be varied from 100 Hz to 8000 Hz. By changing the values of the filter cutoff, a myriad of analogue sounding filter sweeps can be achieved. An example of a GM instrument that makes use of filter sweep is instrument number 87, Lead 7 (fifths).

Amplifier

AWE Envelope 2 Sustain

LFO1

An LFO, or Low Frequency Oscillator, is normally used to periodically modulate, that is, change a sound parameter, whether it be volume (amplitude modulation), pitch (frequency modulation) or filter cutoff (filter modulation). It operates at sub-audio frequency from 0.042 Hz to 10.71 Hz. The LFO1 in the EMU8000 modulates the pitch, volume and filter cutoff simultaneously.

LFO2

The LFO2 is similar to the LFO1, except that it modulates the pitch of the audio signal only.

Resonance

A filter alone would be like an equalizer, making a bright audio signal duller, but the addition of resonance greatly increases the creative potential of a filter. Increasing the resonance of a filter makes it emphasize signals at the cutoff frequency, giving the audio signal a subtle wah-wah, that is, imagine a siren sound going from bright to dull to bright again periodically.

LFO1 to Volume (Tremolo)

The LFO1's output is routed to the amplifier, with the depth of oscillation determined by LFO1 to Volume. LFO1 to Volume produces tremolo, which is a periodic fluctuation of volume. Let's say you are listening to a piece of music on your home stereo system. When you rapidly increase and decrease the playback volume, you are creating tremolo effect, and the speed in which you increases and decreases the volume is the tremolo rate (which corresponds to the speed at which the LFO is oscillating). An example of a GM instrument that makes use of LFO1 to Volume is instrument number 45, Tremolo Strings.

LFO1 to Filter Cutoff (Wah-Wah)

The LFO1's output is routed to the filter, with the depth of oscillation determined by LFO1 to Filter. LFO1 to Filter produces a periodic fluctuation in the filter cutoff frequency, producing an effect very similar to that of a wah-wah guitar (see resonance for a description of wah-wah) An example of a GM instrument that makes use of LFO1 to Filter Cutoff is instrument number 19, Rock Organ.

LFO1 to Pitch (Vibrato)

The LFO1's output is routed to the oscillator, with the depth of oscillation determined by LFO1 to Pitch. LFO1 to Pitch produces a periodic fluctuation in the pitch of the oscillator, producing a vibrato effect. An example of a GM instrument that makes use of LFO1 to Pitch is instrument number 57, Trumpet.

LFO2 to Pitch (Vibrato)

The LFO1 in the EMU8000 can simultaneously modulate pitch, volume and filter. LFO2, on the other hand, modulates only the pitch, with the depth of modulation determined by LFO2 to Pitch. LFO2 to Pitch produces a periodic fluctuation in the pitch of the oscillator, producing a vibrato effect. When this is coupled with LFO1 to Pitch, a complex vibrato effect can be achieved.

Volume Envelope

The character of a musical instrument is largely determined by its volume envelope, the way in which the level of the sound changes with time. For example, percussive sounds usually start suddenly and then die away, whereas a bowed sound might take quite some time to start and then sustain at a more or less fixed level.

Envelope details

A six-stage envelope makes up the volume envelope of the EMU8000. The six stages are delay, attack, hold, decay, sustain and release. The stages can be described as follows:

Delay

The time between when a key is played and when the attack phase begins

Attack

The time it takes to go from zero to the peak (full) level.

Hold

The time the envelope will stay at the peak level before starting the decay phase.

Decay

The time it takes the envelope to go from the peak level to the sustain level.

Sustain

The level at which the envelope remains as long as a key is held down.

Release

The time it takes the envelope to fall to the zero level after the key is released.

Using these six parameters can yield very realistic reproduction of the volume envelope characteristics of many musical instruments.

Pitch and Filter Envelope

The pitch and filter envelope is similar to the volume envelope in that it has the same envelope stages. The difference between them is that whereas the volume envelope contours the volume of the instrument over time, the pitch and filter envelope contours the pitch and filter values of the instrument over time. The pitch envelope is particularly useful in putting the finishing touches in simulating a natural instrument. For example, some wind instruments tend to go slightly sharp when they are first blown, and this characteristic can be simulated by setting up a pitch envelope with a fairly fast attack and decay. The filter envelope, on the other hand, is useful in creating synthetic sci-fi sound textures. An example of a GM instrument that makes use of the filter envelope is instrument number 86, Pad 8 (Sweep).

Pitch/Filter Envelope Modulation

These two parameters determine the modulation depth of the pitch and filter envelope. In the wind instrument example above, a small amount of pitch envelope modulation is desirable to simulate its natural pitch characteristics.

See also

View 12
View 13
View 14

AWE Reverb Variation

Note Only relevant for Creative Labs AWE32/AWE64/SB32/SB64 soundcard owners

Location

Piece view 3

Description

This parameter will allow you to select one of the reverb effect types in the AWE Control Panel (refer to your AWE Control Panel manual for further information on these). You will need to select the **AWE Effect Type** parameter to be **0 - Reverb and Chorus** (if this is set as **-1 -Default settings** it will leave your AWE32/AWE64/SB32/SB64 reverb settings as they were). Any changes you make to the reverb setting will be applied immediately. The settings you choose in the Reverb(91) parameter (i.e. 0 to 127) will be applied to the reverb effect type you have chosen, and both settings are stored in the piece.

Range of Values

0 - Room 1, 1 - Room 2,..... 7 - Panning Delay

Typical value

1 - Room 2

AWE SoundFont™ Bank & SBK File Name

Note Only relevant for Creative Labs AWE32/AWE64/SB32/SB64 soundcard owners

Note: We generally recommend you now use instead the Patch parameter which loads SoundFonts on a voice by voice basis.

Location

Piece view 3

Description

Allows your piece to use samples from one or more Creative Labs SoundFont compatible bank Files; which have an extension of either .SF2 or .SBK (Note: SoundFont files are often referred to as SBKs, irrespective of their actual file extension). SoundFonts are files that contain a number of audio samples in a special format (SoundFont) that can be loaded in to the RAM present on the Creative Labs AWE64/AWE32/SB32/EMU8710 sound cards. These audio samples can then be played back in a SSEYO Koan piece, thus allowing you to include many special sounds not provided on the ROM of the AWE64/AWE32/SB32/EMU8710. If stored in the Melodic section of the SoundFont bank, each sample can be triggered at a different pitch, as for any normal instrument; if stored in the percussive section samples will be played back like a normal drum bank. Please refer to Creative Labs for further information on SoundFont compatible banks. Examples of SoundFont compatible banks in SSEYO Koan pieces could include using breakbeats, resampled dance beats, speech, wild animal or instrument samples to give the pieces much greater life, depth and realism. You could ship to your friends/ customers your SSEYO Koan pieces (.SKP, .SKT or .SKD format) and the SoundFont files they use. Some versions of the AWE32 and AWE64 soundcards currently ship with 0.5Mb of RAM (others ship with more) which can be increased up to 28Mb by adding sufficient memory chips.

The SKME can load individual SoundFonts from a SoundFont Bank meaning that you conserve the AWE64/AWE32/SB32 memory required for loading. For instance, say you have the standard 500Kb of onboard DRAM but your SoundFont bank is 2MB. Say there are only 3 SoundFonts in it you want to use, and these 3 have a combined size of 370Kb (SoundFonts are effectively just samples) the SKME can be told to only load these 3. See 2 below.

You may also use SoundFonts from more than 1 SoundFont in a piece, meaning you could use your favorite guitar sound from your GUITAR.SBK and favorite piano from PIANO.SBK. This facility means you do not have to create new SoundFont files specially for each piece. See 2 below.

Finally, SoundFonts can be loaded from a CD ROM or any other drive and directory once you set the path the SKME uses (See Options Setup).

Tip: You are recommend to load SoundFont patches into a Voice on a per-voice basis; look at the Patch parameter to see how to do this.

Range of Values

The SoundFont can be any number from 1 to 128. The SoundFont compatible bank name can be any 8 character name (supported by DOS) followed by the .SF2 or .SBK extension.
Note : 32-bit versions of the SSEYO Koan Pro software can use long file names and file path.

Piece using only 1 SoundFont compatible bank

The whole SoundFont bank is loaded

In Piece View 3 call up the AWE SoundFont Banks dialog by pressing the button with the down arrow. Select the first cell in the SoundFont Bank Name column by either double clicking or pressing Enter in the column or selecting Add. You will see a button pop up

showing *.sbk or *.sf2 (we support both SBK and SoundFont 2 format banks). Select the SoundFont file that you want to add/use. If you want to use the patch numbers in your SoundFont bank as they are pre-defined and you want to load the whole SoundFont bank, then press OK. Now refer to the Patch parameter to see how to use SoundFonts in a Koan piece.

Note See Note 1 below on patch numbering.

Note The SoundFont bank is loaded when the piece starts playing.

Note If you want to specify individual SoundFonts to be loaded up to reduce the AWE64/AWE32/SB32/EMU8710 onboard memory required, you need to carry out procedure 2 below.

Piece using SoundFonts from multiple SoundFont Banks (or selected SoundFonts only)

Only specified SoundFonts are loaded

Follow the procedure above for each SoundFont bank from which you want your piece to select a SoundFont. Each row corresponds to a SoundFont Bank (and you can have the same bank shown many times if you wish to select a number of SoundFonts from one bank).

If you want the piece to assign a SoundFont to another patch in the piece (e.g. you want SoundFont 37 in your SoundFont bank to correspond to patch 56 in the piece) or if you want to specify individual SoundFonts (so reducing the AWE64/AWE32/SB32/EMU8710 onboard memory required for loading) then in the cell in the From column, select the SoundFont Bank GM patch number (0-127) and in the To column select the patch you want this to correspond to in your piece. Now refer to the Patch parameter to see how to use SoundFonts in a Koan piece.

Notes:

1 The Creative Labs Vienna SoundFont tool uses instruments from 0 to 127 and SSEYO Koan Pro reads them as 1 to 128. Make sure you allow for this.

2 Any SoundFonts used must be in the same directory as your Koan piece, unless you define the path in Options Setup.

3 Loading SoundFont compatible banks onto the AWE64/AWE32/SB32/EMU8710 takes time; the larger the SoundFont file, the longer it takes. However, loading is much faster in Windows 95. We recommend that you ship pieces with SoundFont files that can fit into the default supplied AWE64/AWE32/SB32/EMU8710 (512k).

4 You should ensure that the GS Synth Bank is not loaded by your AWE Control Panel before loading a Koan piece containing SoundFont support. This is because the GS sample map uses ALL the available default memory (if you have the 512Kb supplied as standard). You should instead ensure that the AWE Control Panel Synth Bank is set to General MIDI.

5 The SKME fully supports loading of individual SoundFonts from multiple SoundFont files, and the Creative Labs drivers for Windows 95 cater for this functionality. However, if you are using Windows 3.1 and you notice that the whole of the SoundFont file (and not just the SoundFont you require) is being loaded you will need to contact Creative Labs to obtain the latest drivers.

6 When sending out SoundFont compatible banks to your customers/ friends make sure you put them in the same directory as the SSEYO Koan piece which uses them, or advise them to set up their path (see note 2 above).

See also

AWE EMU8000 controllers
Patch parameter

Breakbeat ? V2.0

Location

View 8

Description

If you use SSEYO Koan Pro to create a template for SSEYO Koan X which you really want always to be played at a specific tempo when added to a piece, then define this parameter to have the value "Yes"; and set the **Tempo** parameter to the tempo value you want. Then, when the template is dropped into SSEYO Koan X, the tempo of the piece will change automatically.

Tip : this is very useful for voices which are based around samples, which are specifically set-up only to work properly at certain tempos, due to the specific length of the sample. You can use either WAV files or SoundFont banks to be your samples. Use the Pattern Editor to create a 1 bar looping pattern for e.g. a 1 bar breakbeat and set the patch to be your sample. You can even create fixed or random sequences of these breakbeats in the Pattern Editor!!!

Range of Values

Yes or No

Typical value

No

See also

AWE SoundFont Banks
Wave file
Patch parameter
Pattern Editor

Brightness (74) V2.0

Location

View 9

Description

Affects the Brightness level of notes played on soundcards that support this controller (number 74). It can be very useful for "lifting" the quality of a given patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum brightness and 127 is maximum brightness)

Typical value

1 (off)

Chord Delay V2.0

Location

View 7

Description

This parameter defines how much delay there should be between each note in an auto-chording voice. A value of 0 means that there is no delay, i.e. the notes are all played at the same time in what is known as a **block chord**. A value of other than zero, means that the notes are all played at different times, an effect which is known as **arpeggiation** (playing as an **arpeggio**).

Use this to create long delays (artificial echo), short delays (simulated reverb), fugues (use Chord Delay Unit to be 1/60 of a Beat), 'humanized' chord strums (using a very small value) etc.

Range of Values

0 to 32000

Typical value

0 (no delay)

See also

Chord Parameters

Chord Delay Range V2.0

Location

View 7

Description

Determines how much variation is applied to the delay between each note in an auto-chording voice. Using a value of 0 means that there is no variation in the delay; using a value greater than 0, means that there is up to that level of uncertainty in when each note will play. **Tip** : you can try using small values for this parameter to make your chords sound more "human".

Range of Values

0 to 32000

Typical value

0 (no range)

See also

Chord Parameters

Chord Delay Unit V2.0

Location

View 7

Description

Determines the time units used by the Chord Delay parameters.

If the chord delay unit is specified to be "Quantized 60ths of a beat", then a quite specific effect is obtained. First, the chord voice delay is calculated based on the Chord Delay and Chord Delay Range. Then, this calculated value is quantized to fit within a range of delay values that depends on the "Chord Delay" parameter :

If Chord Delay = 10, then quantize the delay to one of : 10, 20, 30, 40 ...
If Chord Delay = 15, then quantize the delay to one of : 15, 30, 45, 60 ...
If Chord Delay = 20, then quantize the delay to one of : 20, 40, 60 ...
This is to allow (mainly) Koan dance people get a lot of variety on the drum repeats. Great for "Jungle" sounds. Experiment to see how it sounds !

Range of Values

1/60th of a beat (quarter note/crotchet), thousandths of a second, Quantized 60ths of a beat

Typical value

60th of a beat

See also

Chord Parameters

Chord Depth V2.0

Location

View 7

Description

This parameter defines how many notes are to be played when the Voice plays; it measures the "depth" of the chord. A value of 1 means that only individual note are to be played; a value of 5 would mean that 5 notes are to be played automatically (or more, depending on the value of the Chord Depth Percent parameter).

Note that each note played will count as one "item" of polyphony. If your card is 32 note polyphonic and you have a chord depth of 32, you will run out of notes if you have another voice playing.

Range of Values

1 to 32

Typical value

1 (no chord)

See also

Chord Parameters

Chord Depth Percent V2.0

Location

View 7

Description

This parameter defines the percentage chance of each note actually playing in the chord; applied per note in the chord. For example, if the Chord depth were 4, then you might expect 4 notes to be played each time by the voice. However, if the Chord Depth Percent were set to a value of e.g. 50%, then each note in the chord (after the first note) would have only a 50% chance of being played.

Tip : use this parameter to thin-out or add "space" to your chords and arpeggios.

Range of Values

0 to 100

Typical value

100 (always play each note in the chord)

See also

Chord Parameters

Chord Depth Range V2.0

Location

View 7

Description

This parameter defines the range of how many notes are to be played when the Voice plays; it measures the amount by which the "depth" of the chord can change each time a note is played. Each time a Voice plays a note, the Chord Depth Range is added to the Chord Depth, to determine how many notes are to be played that time.

Tip : use this parameter to add variety to the size of your chords.

Range of Values

0 to 32

Typical value

0 (no variety in the chord depth)

See also

Chord Parameters

Chord Pitch Offset V2.0

Location

View 7

Description

This parameter defines the Pitch range in semitones per subsequent note in the chord. For example,. a value of +12 would tend to cause each note in the chord to be 1 octave higher than the last (subject of course to the influence of all the other musical rules in the system). A value of 0 would mean that each note in the chord would tend to play in roughly the same part of the frequency spectrum. A negative value would of course cause the chord or arpeggio to play from a high note, down to a low note.

Tip : you can use this parameter to cause your chords or arpeggios to be wider, and to really cover a wide range of Pitches. Also use this parameter to influence the way that your arpeggios play; either from a low note to a high note, or from a low note to a high note.

Range of Values

- 60 to 0 to +60

Typical value

3 (cause each note in the chord to be roughly 3 semitones higher than the last)

See also

Chord Parameters

Chord Shift/Interval V2.0

Location

View 7

Description

Determines how many musical tones away from the initial note the notes played by each note in the chord will be, and is used in conjunction with the **Chord Strategy** and **Chord Shift/Interval range** parameters.. For example, if **Chord Strategy** is set to *Semitone Shift* and you have set **Chord Shift/Interval** to be 3, then every subsequent note in the chord will be 3 semitones above that of the previous note in the chord. It is likely you will most often use this set to 0 (or 12), where it will play the same note as (or an octave above) the previous note. Alternatively, if **Chord Strategy** is set to INTERVAL WITHIN SCALE and **Chord Shift/Interval** is 2, then the notes played by each note in the chord will depend on the notes available in the scale rule that used by the voice. This means you could have a voice which uses a major scale, say, and with an interval of 2 this represents a major third (M3) when the first note is a root note (root note[0], M2[1], M3[2]). This is a real interval of 4 semitones (root[0], m2[1], M2[2], m3[3], M3[4]). However, if the previous note in the chord were a major second (M2) the second note in the chord would be a fourth (M2, M3, 4) which is actually 3 semitones (M2[0], m3[1], M3[2], 4th[3]). This allows a natural sounding progression along the scale, which would not be possible if it was a fixed semitone interval.

Range of Values

- 60 to +60 (negative values cause subsequent notes in the chord to be lower in pitch; positive values causes notes within the chord / arpeggio to rise in pitch)

Typical value

0

See also

Chord Parameters

Chord Shift/Interval Range V2.0

Location

View 7

Description

Determines the range of values a chording voice can have for the **Chord Shift/Interval** parameter. The value set for **Chord Shift/Interval Range** is added to that selected for **Chord Shift/Interval** so that the frequency/interval shift that occurs is anywhere between the **Chord Shift/Interval** value and the **Chord Shift/Interval** plus the **Chord Shift/Interval Range** value (i.e. if these were 2 and 4 respectively, the interval shift could be anywhere between 2 and 6 (2+4)).

Range of Values

- 60 to +60 (negative values cause subsequent notes in the chord to be lower in pitch; positive values causes notes within the chord / arpeggio to rise in pitch)

Typical value

0

See also

Chord Parameters

Chord Strategy V2.0

Location

View 7

Description

When an auto-chording voice plays a note, *Chordal harmony* allows subsequent notes in the chord to harmonize with that of the preceding note in the chord - according to the Scale, Harmony and Next Note rules used by that voice. *Interval within scale rule* allows notes in the chord to be chosen based upon a set note interval, the available notes being those of the Scale rule used by the voice; *Frequency Shift* just sets up a fixed melodic interval - e.g. 5 semitones - between each note in the chord (see **Chord Shift/Interval** for further details).

Range of Values

Chordal Harmony; Interval Within Scale Rule and Frequency Shift

Typical value

Chordal Harmony

See also

Chord Parameters

Chord Velocity Factor V2.0

Location

View 7

Description

This parameter defines the percentage amount that each subsequent note in the chord or arpeggio is louder / quieter than the last. A value of 0 means that there is no variation; a value less than 0 will cause subsequent notes in the chord to become quieter; a value of greater than 0 will cause subsequent notes in the chord to become louder.

Tip : use this parameter to add more subtlety to your chords.

Range of Values

- 100 to 0 to +100

Typical value

0

See also

Chord Parameters

Chorus (93)

Location

View 9

Description

Sets the chorus level for a voice's patch/ instrument

Range of Values

0 - 127 (Where 0 equates to no chorus and 127 to full chorus)

Some soundcards do not support this parameter

Typical value

0

Copyright V2.0

Location

View 8

Description

Use this parameter to define an individual copyright notice that is associated with your voice. This notice is written to the Piece Notes whenever a piece containing the voice is saved to an SKP file.

Tip : Use this parameter if you create templates for SSEYO Koan X, so that you can see where people are using your templates on the Internet.

Range of Values

Whatever you want, up to 32000 characters.

Typical value

Whatever you like.

See also

How To Create Templates For Koan X

Damper Release

Location

View 9

Description

Determines whether the damper/hold is released at the end of every bar. If **Damper Release** is set to Yes the 'sustain' will be reset at the end of every bar, otherwise it will continue throughout the piece, or until the note is stopped. If set to No and you are using say a pad sound, each note played by the instrument will continue throughout the piece or until the note is stopped, creating a very dense wall of sound (noise!).

Range of Values

Yes or No

Typical value

Yes

See also

Damper/Hold

Damper/Hold (64)

Location

View 9

Description

Affects the damping/hold of notes on soundcards that support this controller (number 64). This is in some ways equivalent to 'sustain' and is best used on percussive type instruments such as piano or guitar. If **Damper Release** is set to Yes the sustain will be reset at the end of every bar, otherwise it will continue throughout the piece. In this instance if you are using say a pad sound, where Damper Release is set to No, then each note played by the instrument will continue either throughout the piece or until the note is stopped, creating a very dense wall of sound (noise!).

Range of Values

0 to 127 (Where 0 is no damping and 127 is max damping)

In effect 0-63 is off, and 64-127 is on.

Typical value

35

See also

Damper Release

Decay

Note **Only relevant for Yamaha XG/Roland SCC1 soundcard owners.**

Location

View 15

Description

Sets the decay level for a voice's patch, determining how quickly the patch's sound will die away after the note has been played. Generally the patches you get on your sound card will be optimized to sound their best, but fast or slow decays can create interesting effects.

Range of Values

50 to 50. 0 is the default setting for normal decay.

Typical value

0

Drum Instrument Chorus V2.0

Note **Only relevant for Yamaha XG/Roland SCC1 soundcard owners.**

Location

View 15

Description

This parameter controls the Drum Instrument Chorus MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. "D53"); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Drum Instrument Chorus and 127 is maximum Drum Instrument Chorus)

Typical value

1 (off)

See also

Drum Instrument Level
Drum Instrument Pitch Coarse
Drum Instrument Reverb

Drum Instrument Level V2.0

Note **Only relevant for Yamaha XG/Roland SCC1 soundcard owners.**

Location

View 15

Description

This parameter controls the Drum Instrument Level MIDI for Yamaha DB50 XG, Roland SCC1 and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Drum Instrument Level and 127 is maximum Drum Instrument Level)

Typical value

1 (off)

See also

Drum Instrument Chorus
Drum Instrument Pitch Coarse
Drum Instrument Reverb

Drum Instrument Pitch Coarse V2.0

Note Only relevant for Yamaha XG/Roland SCC1 soundcard owners.

Location

View 15

Description

This parameter controls the Drum Instrument Pitch Coarse MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Drum Instrument Pitch Coarse and 127 is maximum Drum Instrument Pitch Coarse)

Typical value

1 (off)

See also

XG Drum Instrument Pitch Fine
Drum Instrument Level
Drum Instrument Pitch Coarse
Drum Instrument Reverb

Drum Instrument Reverb V2.0

Note Only relevant for Yamaha XG/Roland SCC1 soundcard owners.

Location

View 15

Description

This parameter controls the Drum Instrument Reverb MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Drum Instrument Reverb and 127 is maximum Drum Instrument Reverb)

Typical value

1 (off)

See also

Drum Instrument Chorus
Drum Instrument Level
Drum Instrument Pitch Coarse

Drum Set

Location

Piece view 1

Description

Determines the Drum set which your sound card will use in the piece. SSEYO Koan Pro supports Drum sets from 1 to 128 (1 is the standard Drum Set). Refer to the discussion on the Drum Set and see the Patch parameter for information on drums and SoundFont files.

Range of Values

1-128

Typical value

1

See also

Patch
Polyphony and the Drum Set

Expression (11)

Location

View 9

Description

Affects the Volume of notes played on soundcards that support this controller (number 64). It effectively shadows the overall Volume envelope parameter (but not as an envelope). This is handy when you want one of a number of voices sharing a MIDI channel to have a different volume from the rest.

Range of Values

- 1 (off), 0 to 127 (where 0 is zero volume and 127 is maximum volume)

Typical value

127

You might find it best to have this set to maximum and allow the volume envelope to take control, otherwise you may forget you have set it and wonder why there is no volume!

Filter Cutoff V2.0

Note **Only relevant for Yamaha XG/Roland SCC1 soundcard owners.**

Location

View 15

Description

This parameter controls the Filter Cutoff MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards.

Range of Values

1(off), 0 to 127 (where 0 is minimum Filter Cutoff frequency and 127 is maximum Filter Cutoff frequency)

Typical value

1 (off)

See also

Other Yamaha XG parameters

Filter Resonance V2.0

Note **Only relevant for Yamaha XG/Roland SCC1 soundcard owners.**

Location

View 15

Description

This parameter controls the Filter Resonance MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards.

Range of Values

1(off), 0 to 127 (where 0 is minimum Filter Resonance and 127 is maximum Filter Resonance)

Typical value

1 (off)

See also

Other Yamaha XG parameters

Follow Delay

Location

View 3

Description

Determines how much delay is applied to the notes played by a voice when following another voice (Voice type must be set as a **Follows** voice for this to take effect). Use this to create long delays (artificial echo), short delays (simulated reverb), fugues (use Follow Delay Unit to be 1/60 of a Beat), 'humanized' chord strums (using Follow Percent) etc.

Range of Values

0 to 32,000

Typical value

10

See also

Follow Parameters

Follow Delay Range

Location

View 3

Description

Determines the range of values a following voice can have for the **Follow Delay** parameter. The value set for the **Follow Delay Range** parameter is added to the **Follow Delay** parameter so that the actual delay that occurs is anywhere between the **Follow Delay** and the **Follow Delay** plus the **Follow Delay Range** value (i.e. if these were 2 seconds and 4 seconds respectively, the delay could be anywhere between 2 seconds and 6 seconds (2+4)).

Range of Values

0 to 32,000

Typical value

10

See also

Follow Parameters

Follow Delay Unit

Location

View 3

Description

Determines the time units used by the Follow Delay of parameters.

Range of Values

Seconds, Thousandths of a second or 1/60th of a beat (quarter note/crotchet)

Typical value

Seconds

See also

Follow Parameters

Follow Named Voice

Location

View 3

Description

Selects the lead voice (by Voice Name) that a **Follows** voicetype will track. This can be any voice in the piece. This works to any depth, there are no arbitrary limits; for example, you can create a Voice called **A**, which is followed by Voice **B**, which is in turn followed by Voice **C**. Of course, you cannot have e.g. A following B which follows C which follows A, because this is a recursive definition which has no meaning !

Note If you have this value set to '?' then the voice will not play at all - you must explicitly define the voice you want it to follow. You can, of course, create a list of voices from which it can choose to follow one when the piece starts.

Range of Values

? (meaning none), or any voice in the piece

Typical value

Default Voice 1

See also

Follow Parameters

Follow Percent

Location

View 3

Description

Defines how likely the voice is to play another note when the voice it is following (the 'lead' voice) plays a note. If you set this to 100% then every time the lead voice plays a note this voice will also play a note. This parameter allows a subtle layering of chords. For example, say you set up a number of voices following a lead voice and you set this parameter to say 40% for each of the following voices you will find you can sometimes get thin chords (few notes) and sometimes fat chords (many notes).

Range of Values

0 to 100 (percentage value)

Typical value

40

See also

Follow Parameters

Follow Shift/Interval

Location

View 3

Description

Determines how many musical tones away from the 'lead' voice the notes played by the following voice ('follower')will be, and is used in conjunction with the **Follow Strategy** and **Follow Shift/Interval range** parameters.. For example, if **Follow Strategy** is set to *Semitone Shift* and you have set **Follow Shift/Interval** to be 3, then every note the follower plays will be 3 semitones above that of the lead voice. It is likely you will most often use this set to 0 (or 12), where it will play the same note as (or an octave above) the lead voice. Alternatively, if **Follow Strategy** is set to INTERVAL WITHIN SCALE and **Follow Shift/Interval** is 2, then the notes played by the follower voice will depend on the notes available in the scale rule that used by the follower voice. This means you could have both voices using a major scale, say, and with an interval of 2 this represents a major third (M3) when the lead voice plays a root note (root note[0], M2[1], M3[2]). This is a real interval of 4 semitones (root[0], m2[1], M2[2], m3[3], M3[4]). However, if the lead voice now plays a major second (M2) the follower will play a fourth (M2, M3, 4) which is actually 3 semitones (M2[0], m3[1], M3[2], 4th[3]). This allows a natural sounding progression along the scale, which would not be possible if it was a fixed semitone interval.

Range of Values

60 to +60 (negative values represent notes lower than the lead voice, positive values notes higher than the lead voice)

Typical value

0

See also

Follow Parameters

Follow Shift/Interval Range

Location

View 3

Description

Determines the range of values a following voice can have for the **Follow Shift/Interval** parameter. The value set for **Follow Shift/Interval Range** is added to that selected for **Follow Shift/Interval** so that the frequency/interval shift that occurs is anywhere between the **Follow Shift/Interval** value and the **Follow Shift/Interval** plus the **Follow Shift/Interval Range** value (i.e. if these were 2 and 4 respectively, the interval shift could be anywhere between 2 and 6 (2+4)).

Range of Values

60 to +60 (negative values represent notes lower than the lead voice, positive values notes higher than the lead voice)

Typical value

0

See also

Follow Parameters

Follow Strategy

Location

View 3

Description

Determines the actual 'strategy' a voice will adopt if it is set as a Follow Voice Type ('follower'). There are 3 possibilities: *Chordal Harmony; Interval Within Scale Rule* and *Frequency Shift*.

When the follower voice plays a note in response to the lead voice (set with Follow Named Voice), *Chordal harmony* allows the follower voice to harmonize the note it plays with that of the lead voice - according to the Scale, Harmony and Next Note rules used by the follower voice. Thus you could set up say 6 follower voices, all responding to one lead voice, and the notes played will likely be that of a chord (if the **Pitch** and **Pitch Range** values for each voice allow a sufficient spread of notes). *Interval within scale rule* allows the follower voice to choose the note it plays based upon a set note interval, the available notes being those of the Scale rule used by the follower voice; *Frequency Shift* just sets up a fixed melodic interval - e.g. 5 semitones - over the lead voice (see **Follow Shift/Interval** for further details).

Range of Values

Chordal Harmony; Interval Within Scale Rule and Frequency Shift

Typical value

Chordal Harmony

See also

Follow Parameters
Pitch
Pitch Range

Gravis Drum Patch Bank

Note **Only relevant for Advanced Gravis Ultrasound, Ultrasound Max or certified Ultrasound compatible soundcard owners.**

Location

Piece view 3

Description

Allows you to automatically upload Gravis drum patch to your soundcard RAM for use by Koan pieces. This has the same operation as the Gravis Melodic Patch Bank parameter, and so all details are covered there.

Range of Values

Up to 127 different patches can be defined.

Selecting the patches

Call up the Gravis Drum Patch Banks dialog by pressing the button with the down arrow. To select the patch you want to add either double click or press Enter in the Gravis Patch Name column or select Add. Then, in the To patch column, select the GM patch number (1-127) you want this to correspond to in your piece.

Notes:

1. Any patches used must be in the same directory as your SSEYO Koan piece, unless you define the path in Options Setup. The special Gravis patches must **ALL** be in the same directory, otherwise they will not load.
2. When defining the patches for the voices in your piece you **DO NOT** need to add the patch bank (i.e. 74.99 where 99 is bank 99). You should instead treat it as a normal patch (i.e. 074 - Flute). This will load up the Gravis patch (you have defined above) in its place.
3. Gravis do not support capital tones (see GS discussion), meaning that Gravis cards can only use patches from only one bank in any piece (i.e. you cannot use patches from BOTH bank 99 and bank 100). The only exception to this rule is if a patch is not found in the bank defined it will revert to the standard bank 0 patch as a default. We recommend you use bank 99 to avoid possible conflict with other applications.
4. When sending out patches to your customers/ friends make sure you put them in the same directory as the Koan piece which uses them.

See also

Patch

Gravis Melodic Patch Bank

Note **Only relevant for Advanced Gravis Ultrasound, Ultrasound Max or certified Ultrasound compatible soundcard owners.**

Location

Piece view 3

Description

Allows you to automatically upload Gravis melodic patch banks (see also Gravis Drum Patch Banks) to your soundcard RAM for use by SSEYO Koan pieces. Make sure you try not to load more patches than your soundcard RAM can take, otherwise the patch loading operates on a First In First Out basis (i.e. the last patch to be loaded takes priority, so some patches could be unloaded). You simply define a patch bank into which you want to load your patches - it is best to choose one that you are not using for anything else and we use 99 as the default. .

When you play the SSEYO Koan piece it writes the bank information to the ULTRASND.INI file, which you can see if you look at the file whilst the Koan piece is playing (just remember that it can not write to this file if it is already open when the piece starts). When the piece stops this information is wiped from the .INI file, thus leaving the patch bank free for other purposes.

If you want your piece to be able to select from a large number of patches define them all in this parameter before you start the piece as you will only be able to select patches that are listed in the .INI file. The piece will only load up what it needs, when it needs it. This facility is useful if you want to experiment with the sound palette for your piece whilst you are writing it.

You could ship to your friends/ customers your SSEYO Koan pieces (.SKP, .SKT or .SKD format) and the patches they use. We also allow you to ship a Demo version of SSEYO Koan Web.

Range of Values

Up to 127 different patches can be defined.

Selecting the patches

Call up the Gravis Melodic Patch Banks dialog by pressing the button with the down arrow. To select the patch you want to add either double click or press Enter in the Gravis Patch Name column or select Add. Then, in the To patch column, select the GM patch number (1-127) you want this to correspond to in your piece.

Notes:

1. Any patches used must be in the same directory as your SSEYO Koan piece, unless you define the path in Options Setup. The special Gravis patches must **ALL** be in the same directory, otherwise they will not load.
2. When defining the patches for the voices in your piece you **DO NOT** need to add the patch bank (i.e. 74.99 where 99 is bank 99). You should instead treat it as a normal patch (i.e. 074 - Flute). This will load up the Gravis patch (you have defined above) in its place.
3. Gravis do not support capital tones (see GS discussion), meaning that Gravis cards can only use patches from only one bank in any piece (i.e. you cannot use patches from BOTH bank 99 and bank 100). The only exception to this rule is if a patch is not found in the bank defined it will revert to the standard bank 0 patch as a default. We recommend you use bank 99 to avoid possible conflict with other applications.
4. When sending out patches to your customers/ friends make sure you put them in the same directory as the Koan piece which uses them.

See also

Patch

Harmonic Content (71) V2.0

Location

View 9

Description

Affects the Harmonic Content level of notes played on soundcards that support this controller (number 71). It can be very useful for “lifting” the quality of a given patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum harmonic content and 127 is maximum harmonic content)

Typical value

1 (off)

Harmonize?

Location

View 8

Description

Determines whether a voice is to harmonize with other voices or not. Having this flexibility can be useful when you are using drums in a melodic bank and you do not want them to affect (i.e. harmonize with) other voices. Another situation would be where you are playing an SoundFont / Gravis patch which you did not want to harmonize with other voices as it had only one pitch. However, normally you will want to set this to Yes otherwise you can get strange disharmonies.

Tip: This can also be used to good effect if you want a lot of passing notes (refer to the Glossary) or one voice to be apparently 'unrelated' to the rest of the piece.

Range of Values

Yes or No (Yes is default)

Typical value

Yes

Harmonization Type

Location

Piece view 1

Description

Determines at the piece level if a Harmony rule is to be applied at all. Each voice normally composes according to which Harmony and Scale rules are applied to it.

Range of Values

A value of 1 means that the Harmony rule will be applied (at either the Voice or Piece level depending on what you have defined in the piece); a value of 0 means that any note may be chosen to play in the Scale rule used by any voice, and the harmony rule is ignored.

Typical value

1

See also

Rules
Harmony Rule
Scale Rule

Harmony Duration

Location

View 8

Description

How long a note will continue to be harmonized with other notes.

Range of Values

0 to 32,000 Milliseconds

Typical value

16,000 (16 seconds)

Note This parameter enables voices to be set up such that their notes are significant for harmonization purposes *only* over this period. I.E. after a note has played for the length of time specified by the Harmony Duration parameter, that note ceases to be considered for harmonization with other notes.

If **Harmony Duration** is set to zero, then other voices will **never** consider this voice for the purposes of harmonization, though this voice's notes will still be harmonized against all other current voice notes when composed.

If **Harmony Duration** is non-zero, and **Harmonize?** = 'Yes', then the voice is harmonized against for the duration of that voice's note.

This parameter is particularly useful for ambient voices, especially drones, whenever you do not wish them to dominate the harmonization of a piece for their entire duration !

Note When a Piece Root change occurs, the only voices whose notes may continue across the Root change bar boundary are those for which **Harmonize?** = No. All other voices stop their current notes at the end of the preceding bar, and may then start new notes in the new (key-changed) bar.

Harmony Rule(s)

Location

View 8

Description

The Harmony rule determines how a voice is composed. You can select which rule is used for a voice from the list of already pre-defined Harmony rules (which you can add to/modify in the Harmony rule window by selecting the Harmony rule button on the top toolbar or selecting Groups Harmony Rules from the menu). The SKME calls on the harmony relationships and probabilities defined in this rule when it comes to composing for this voice. If the value is set to '?' it will use the Harmony rule defined at the piece level. Each voice can have its own distinct harmony rule.

Range of Values

Can be set to any Harmony rules you may have created or a '?'

Typical value

Default Harmony Rule, or Major, or Minor etc.

See also

Harmony Rule - In Depth Explanation
Harmony Rule Value
Rules

Harmony Rule(s)

Location

Piece view 1

Description

The Harmony Rule (or list of rules) the **piece** contains and is available to use. Note that if you want it left up to the piece to decide which Harmony rule to use, set the Harmony rule

parameter in View 8 to be '?'. Remember that you can set up a list of pre-defined Harmony rules from which a choice can be made every time the piece plays.

Range of Values

Choose from the list of rules you have defined.

Typical value

Default Harmony Rule

See also

Harmony Rule - In Depth Explanation
Harmony Rule
Rules

Harmony Rule(s) Value

Location

Rules view

Description

Displays the Harmony Rule window, where you can see the probability bars for each harmony rule defined/available.

Range of Values

Each bar can be from zero to maximum height, where the higher it is the more likely the note is to play.

Typical value

Mid range

See also

Harmony Rule - In Depth Explanation
Harmony Rule
Rules

Initialization MIDI Command V2.0

Location

View 9

This parameter is used to define arbitrary MIDI commands that are to be sent out just before a Voice is first used to play in a piece.

Range of Values

Any command that can be defined using the MIDI Book interface.

Typical value

You could, for example, use this parameter to define a sequence of special System Exclusive MIDI commands to prepare your Voice whenever the piece starts playing.

Koan ADSR Attack Time

Location

View 9

Description

The time taken in milliseconds to rise to the full volume level of the note, from when the note is started. As changes to the Volume Envelope occur at low priority time (and the ADSR changes are in relation to this envelope value), the smoothest ADSR effects will be obtained on faster machines. In the light of this we suggest you use values of 100s or 1000s of milliseconds.

Note Auto-chord parameters do not work particularly effectively with Koan ADSR envelopes **unless** your voice is WAV-file based!

Note This parameter has no effect for OPL2/OPL3 based soundcards (see Koan ADSR in Options Setup).

Range of Values

0-32,000 (0 is off)

Typical value

0

See also

Koan ADSR Hold Time
Koan ADSR Decay Time
Koan ADSR Sustain Level
Koan ADSR Release Time

Koan ADSR Hold Time

Location

View 9

Description

The time in milliseconds at which the full volume level of the note is held, after the attack time (if any) has elapsed. As changes to the Volume Envelope occur at low priority time (and the ADSR changes are in relation to this envelope value), the smoothest ADSR effects will be obtained on faster machines. In the light of this we suggest you use values of 100s or 1000s of milliseconds.

Note Auto-chord parameters do not work particularly effectively with Koan ADSR envelopes **unless** your voice is WAV-file based!

Note This parameter has no effect for OPL2/OPL3 based soundcards (see Koan ADSR in Options Setup).

Range of Values

0-32,000 (0 is off)

Typical value

0

See also

Koan ADSR Attack Time
Koan ADSR Decay Time
Koan ADSR Sustain Level
Koan ADSR Release Time

Koan ADSR Decay Time

Location

View 9

Description

The time taken in milliseconds to fall to the sustain level of the note after the hold time (if any) has elapsed. As changes to the Volume Envelope occur at low priority time (and the ADSR changes are in relation to this envelope value), the smoothest ADSR effects will be obtained on faster machines. In the light of this we suggest you use values of 100s or 1000s of milliseconds.

Note Auto-chord parameters do not work particularly effectively with Koan ADSR envelopes **unless** your voice is WAV-file based!

Note This parameter has no effect for OPL2/OPL3 based soundcards (see Koan ADSR in Options Setup).

Range of Values

0-32,000 (0 is off)

Typical value

0

See also

Koan ADSR Attack Time
Koan ADSR Hold Time
Koan ADSR Sustain Level
Koan ADSR Release Time

Koan ADSR Sustain Level

Location

View 9

Description

The relative value in the range of 0 (minimum) to 127 (maximum), to which the ADSR volume envelope will decay, and will then be held subsequently until just before the note is about to stop. As changes to the Volume Envelope occur at low priority time (and the ADSR changes are in relation to this envelope value), the smoothest ADSR effects will be obtained on faster machines. In the light of this we suggest you use values of 100s or 1000s of milliseconds.

Note Auto-chord parameters do not work particularly effectively with Koan ADSR envelopes **unless** your voice is WAV-file based!

Note This parameter has no effect for OPL2/OPL3 based soundcards (see Koan ADSR in Options Setup).

Range of Values

0-32,000 (0 is off) It is suggested you set this to a high value, otherwise you may not hear the note before it decays.

Typical value

0

See also

Koan ADSR Attack Time
Koan ADSR Hold Time
Koan ADSR Decay Time
Koan ADSR Release Time

Koan ADSR Release Time

Location

View 9

Description

This comes into operation when the note is just about to stop. It defines the time taken in milliseconds to fully release the volume to the final value of 0, from the Sustain Level. As changes to the Volume Envelope occur at low priority time (and the ADSR changes are in relation to this envelope value), the smoothest ADSR effects will be obtained on faster machines. In the light of this we suggest you use values of 100s or 1000s of milliseconds.

Note Auto-chord parameters do not work particularly effectively with Koan ADSR envelopes **unless** your voice is WAV-file based, in which case they can be very useful!

Note This parameter has no effect for OPL2/OPL3 based soundcards (see Koan ADSR in Options Setup).

Range of Values

0-32,000 (0 is off)

Typical value

0

See also

Koan ADSR Attack Time
Koan ADSR Hold Time
Koan ADSR Decay Time
Koan ADSR Sustain Level

Listen Adjust Invalid Notes V2.0

Location

View 6

Description

This parameter is used by Listening voice types. If set to "Yes", then notes that are played by the user, that are not valid according to the current compositional rules [e.g. scale rule], are

"adjusted" to the nearest legal note value before being played. If set to "No", then any invalid notes are simply ignored and not played.

Tip : Set this parameter to Yes if you are not a good player of your MIDI instrument !

Range of Values

Yes or No

Typical value

Yes

See also

Listen Parameters
Scale Rule

Listen To Pitch Minimum V2.0

Location

View 6

Description

This parameter defines the minimum MIDI Pitch that will be listened to by a Listening voice type. Any MIDI note information with a pitch less than this value, will be ignored by that listening voice. Note that a value of -1 is a special case, in that it will cause all notes to be listened to.

Tip: You will notice that whenever you listen to an incoming note, the note or chord played will have roughly the same starting pitch(es) and spread (i.e. if a chord has been defined, how "wide" it is). To change the starting pitch and pitch range over which the notes will play you may wish to increase the Pitch and Pitch Range parameters which determine this. If you wish to vary the spread of the chord, use the Chord Pitch Offset parameter.

Range of Values

1 (off), 0 to 127

Typical value

60

See also

Building Your First Hyper-instrument
Chord Pitch Offset
Listen Parameters
Pitch
Pitch Range

Listen To Pitch of Patch Only ? V2.0

Location

View 6

Description

This parameter defines whether the Listening voice will listen only for specific pitch / patch information. It is aimed specifically at the use of MIDI percussion controllers, which have a

number of controllers all working through the same MIDI line. If you set this parameter to a value of e.g. 60, then only Note On/Off information corresponding to that specific MIDI Pitch will be listened to.

Range of Values

Yes or No

Typical value

No

See also

Building Your First Hyper-instrument
Listen Parameters
Patch
Pitch

Listen To Pitch Patch Override V2.0

Location

View 6

Description

This parameter is used in conjunction with the **Listen To Pitch Of Patch Only ?** parameter. Where the **Listen To Pitch Patch Override** parameter is given a pitch value, this specific pitch is listened for by a Listening voice type on a specific MIDI line; when detected, rather than echoing a note of this pitch, instead a note defined by the normal **Pitch** value is **echoed**. It is aimed specifically at the use of MIDI percussion controllers, which have a number of controllers all working through the same MIDI line; where you want the signal from one MIDI drum controller (e.g. 53) to actually trigger a different patch / pitch (e.g. 73).

Range of Values

1 (ignore), 0 to 128

Typical value

1 (ignore)

See also

Building Your First Hyper-instrument
Listen Parameters
Patch
Pitch

Listen To Pitch Range V2.0

Location

View 6

Description

This parameter defines the range of values, above the **Listen To Pitch Minimum** parameter value, that will be listened to by a Listening voice type. Any MIDI note information with a pitch between the Listen To Pitch Minimum value plus the Listen To Pitch Range will be

"heard" by that listening voice; other notes will be ignored (if a range of -1 is defined, then no upper limit is applied).

Tip : Use this parameter with a number of Listening voices if you wish "split" your MIDI keyboard (or other controller) to controller a range of different sound effects!

Range of Values

1 (ignore), 0 to 127

Typical value

24 (equivalent to 2 octaves)

See also

Building Your First Hyper-instrument
Chord Pitch Offset
Listen Parameters

Listen Use Koan Velocities V2.0

Location

View 6

Description

If this parameter is defined as "Yes", then any notes listened-for and echoed-by a listening voice, are echoed-back using a Velocity that is defined and generated by the SKME Velocity parameter. If this parameter is set to "No", then notes are echoed back using the MIDI velocity information provided by your MIDI controller.

Tip : If you do **not** have a velocity-sensitive MIDI controller, then try setting this parameter to No to get more "feel" in your hyper-instrument playing. If you **do** have a velocity sensitive MIDI controller, then you might like to set this parameter to No.

Range of Values

Yes or No

Typical value

No (use Velocity information from the MIDI controller)

See also

Listen Parameters

Meter

Location

View 5

Description

Allows you to set a meter or time signature at the voice level (as opposed to the piece level). Each voice can have a different meter if desired. This is particularly useful if you want to set up patterns, for a number of voices, that cycle against each other (using the Voice Type FixedPattern). For example, you could have one pattern set for Voice A with **Meter** 7:8 and another for Voice B with **Meter** 3:4. Another possibility is to set **Meter** to 1:4 (a special case), which means you can have a pattern of any number of beats (provided it totals to an integer

number of quarter notes/crotchets), irrespective of the time signature. I.E. you could create a pattern of 61 notes for one voice and 93 for another, thus allowing complex patterns to cycle against each other (using the Voice Type FixedPattern).

Range of Values

1:4, 2:4, 3:4, 4:4, 5:4, 6:4, 7:4, 8:4, 1:8, 2:8, 3:8, 4:8, 5:8, 6:8, 7:8, 8:8, 9:8, 10:8, 11:8, 12:8

Meters of x/8 are counted in triplets.

Typical value

4:4

Meter

Location

Piece view 1

Description

The time signature to be used by the Koan piece. You can choose this from the list presented.

Range of Values

1:4, 2:4, 3:4, 4:4, 5:4, 6:4, 7:4, 8:4, 1:8, 2:8, 3:8, 4:8, 5:8, 6:8, 7:8, 8:8, 9:8, 10:8, 11:8, 12:8

Meters of x/8 are counted in triplets.

Typical value

4:4

Micro Modulation Pulse

Location

View 10

Description

Defines how long the micro modulation will last for when it is applied.

Range of Values

0 - 10,000 ms

Typical value

Default 100

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Modulation Pulse Range

Location

View 10

Description

The range of values available on top of that defined by the Micro Modulation Pulse parameter.

Range of Values

0 - 10,000 ms

Typical value

Default 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Modulation Range

Location

View 10

Description

Defines the maximum modulation value that will be used when the micro modulation effect comes in to play. This uses the standard soundcard modulation (if supported on your soundcard). The actual value of the modulation will be chosen at random every time it is applied (see Micro Modulation Update) and will be between 0 to the value you define here. This amount is added to any modulation you may already have defined with the Modulation parameter, which must be turned on (i.e. not -1).

Range of Values

0 to +127

Typical value

Default : 0 (off)

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Modulation Update

Location

View 10

Description

Defines how frequently the micro modulation effect will be applied. This is the minimum amount of time that will pass before the effect is applied.

Range of Values

0 - 10,000 ms

Typical value

Default 0 - continuous

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Modulation Update Range

Location

View 10

Description

The range of values available on top of that defined by the Micro Modulation Update parameter.

Range of Values

0 - 10,000 ms

Typical value

Default 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Note Delay Change

Location

View 10

Description

Defines how much the delay applied to a note can change the next time a note is played by that voice. It is best thought of as a 'walk'. The delay cannot walk by more than this value each time a new note is played. The maximum limits on the delay are set by the Micro Note Delay Range parameter.

Range of Values

0 to +1000 ms

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Note Delay Offset

Location

View 10

Description

Sets the amount each note played by a voice will be delayed or advanced. This can provide the effect of rhythmic 'feel'. This is a fixed value throughout the piece but may be changed in real time.

Range of Values

1000 ms to +1000 ms

Notes : -1000 ms is 1 second early, +1000 ms is 1 second late.

Typical value

Default : 0 (off)

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Note Delay Range

Location

View 10

Description

Defines the total range over which notes played by a voice can vary in terms of start time (i.e. when they are played by the SKME). This value is added to that set by the Micro Note Delay Offset parameter.

Range of Values

0 to +1000 ms

Note This value is purely additive.

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Pitch Change

Location

View 10

Description

Defines by how much the Pitch can change the next time it is updated. It is best thought of as a 'Random walk'. The Pitch cannot walk by more than this value each time it is changed by the Micro Pitch Change controller. The maximum limits of the change in Pitch are set by the Micro Pitch Range parameter. This actual amount by which the pitch changes is also governed by the Pitch Bend Sensitivity value. For instance, if this is 2 (2 semitones, and this is the default) then a value of 8191 would be 2 semitones. Similarly if the Pitch Bend Sensitivity is 24, then 8191 would represent 24 semitones.

Range of Values

0 to 8191

Typical value

Default : 0 (off)

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Pitch Range

Location

View 10

Description

Defines the range over which the pitch of a note played by a voice can change. The actual pitch value is also governed by the Pitch Bend Sensitivity value. For instance, if this is 2 (2 semitones, and this is the default) then a value of 8191 would be 2 semitones. Similarly if the Pitch Bend Sensitivity is 24, then 8191 would represent 24 semitones. It is used in conjunction with Micro Pitch Change, Micro Pitch Update and Micro Pitch Offset.

Range of Values

0 to 8191
0 is OFF
Note Superimposed on the Pitch Bend Offset

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Pitch Update

Location

View 10

Description

Determines how often changes will be made to the Pitch value. If it is set to 100 then every 100 ms the Pitch can change according to the other Micro Pitch controller settings.

Range of Values

0 to +10000 ms

Typical value

Default : 0 (continuous)

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Pitch Update Range

Location

View 10

Description

Used in conjunction with the Micro Pitch Update controller and provides the range of times over which the pitch changes can occur.

Range of Values

0 to +10000 ms

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Volume Change

Location

View 10

Description

Defines how much a voice's Volume can change the next time it is updated. It is best thought of as a 'Random walk', superimposed on top of the volume envelope. The Volume cannot walk by more than this value each time it is changed by the Micro Volume Change controller. The maximum limits of the change in Volume are set by the Micro Volume Range parameter.

Range of Values

0 to 127 (standard volume controller values)

Typical value

Default : 0 (off)

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Volume Range

Location

View 10

Description

Defines the maximum value by which the Volume can change. This is superimposed on the Micro Volume Change.

Range of Values

0 to +127

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Volume Update

Location

View 10

Description

Defines how frequently Micro Volume changes will be applied. This is the minimum value of time that will pass before any changes are applied.

Range of Values

0 to +10000 ms

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

Micro Volume Update Range

Location

View 10

Description

The range of values available on top of that defined by the Micro Volume Update parameter.

Range of Values

0 to +10000 ms

Typical value

Default : 0

See also

Micro Controller overview
Micro Controllers View 10
User Micro Controllers View 11

MIDI Channel

Location

Each of the 15 views in the Power View and in Voice X view. See the Common Parameters view.

Description

Forces a voice to take a specific, defined MIDI Channel. If set to 0 the SKME will allocate a MIDI Channel automatically and it will manage which MIDI Channels a voice will use. This can be very useful if you are using more voices than MIDI Channels (i.e. 22 melodic voices where the MIDI Mapper can accept 16 MIDI Channels). In this instance it will swap MIDI Channels according to which voices are playing (see also MIDI Channel Reallocation), but only when a voice's volume goes to 0. Channel 10 is generally reserved for drum patches. Refer also to the Glossary.

Range of Values

0, or 1 to 16

Typical value

1

Notes

1 You must make sure that voices that have different patches or even the same patches but different volume or pan envelopes **do not** share the same MIDI channel. The reason is that there can be only one master volume/pan envelope or patch per MIDI channel. In the event that there are two different volume/pan envelopes defined in the piece for a MIDI channel the SKME will choose at random which volume envelope to use. For the case where two voices using the same MIDI channel have different patches, the SKME will choose at random which patch will be used by BOTH voices, potentially leading to strange results.

2 For voices that you definitely want to be present throughout the piece it is best to specify their MIDI channel (e.g. 6). This way, any voice that is dependent on it (e.g. a voice may

follow this one) will not stop playing due to the 'master' voice's MIDI channel being reallocated.

3 If you set the instrument to be a Drum sound and you force the MIDI channel to be any channel other than 10 (the reserved drum channel) you can get some interesting effects as each different note that is played (i.e. different note frequency or program change) will trigger a different drum patch.

See also

MIDI Channel Reallocation

MIDI Channel Reallocation

Location

View 8

Description

If the MIDI channel is set to 0 for a voice and the voice's volume goes to zero, this parameter determines how the MIDI channel will be reallocated to another voice whose MIDI channel is zero.

Range of Values

Yes or No

Typical value

No

Notes

1 General: When there are too many voices declared to each have a MIDI Channel, the system drops the MIDI Channel for a voice when the volume of that voices reaches zero. This channel is then allocated to other voices which have not been allocated a MIDI Channel. This maximizes the possible use of limited resources, and enables you to put many fancy effects into your pieces. Implementing it in this way means, however, that you cannot be certain which MIDI channel will be taken by a Voice when the piece plays (unless you use the MIDI Channel parameter).

2 If the **MIDI Channel Reallocation** parameter is set to Yes, then only other voices which have ZERO volume when the channel is dropped may be reallocated that spare channel. To use this option, you can ensure that voices switch in smoothly : provided that you make sure that volume envelopes do not overlap in time - i.e. you must ensure that the volume of the second voice is zero when the volume of the first voice drops to zero - or the second voice will not be able to take over the channel of the first voice.

3 If **MIDI Channel Reallocation** is set to No, then any other voice which does not have a MIDI Channel may be allocated the free MIDI Channel - whatever the value of that voice's volume level. This may lead to voices suddenly jumping in with high volumes, without having had a chance to build up their volume gracefully. However, this means that you do not have to be totally accurate with your alignment of volume envelopes.

See also

MIDI Channel

MIDI Channel Sharing

Location

View 8

Description

Generally, if more than one voice is created with the same patch/instrument, you may want them to share the same MIDI Channel to allow more MIDI Channels to be available for other voices with different patches/instruments. However, you will more than likely want to have different effects envelopes for each voice, even though they may be playing the same instrument, so you will not want the voices to share MIDI Channel (refer also to the Glossary).

Range of Values

Yes or No

Typical value

No

Notes:

1. Consider the example where you have 2 voices playing piano, with varied attack and decay envelopes. If both pianos share the same MIDI channel, then both would share the same effects - and you may NOT want this !
2. In this case, ensure that you create each piano voice with the **MIDI Channel Sharing** parameter set to No.
3. Note that if you have voices with the same patches/instruments sharing a MIDI channel, and which happen to use different volume or pan(stereo) envelopes within a piece, then the system prevents MIDI Channel controller conflict and ensures that the volume and stereo envelopes of only ONE of these voices is used to dictate what happens on that MIDI Channel.
4. To use another example, what happens when you have more than one voice sharing a MIDI channel, and both voices play the same note ? You do NOT get two notes played. This is another example of where you might not wish voices to share the same MIDI Channel.

Modulation (1)

Location

View 9

Description

Sets the value of the modulation of a voice (for soundcards that support it). Set this to -1 if you want no modulation. The parameter will apply to the voice throughout the piece.

Range of Values

- 1, 0 to 127
- 1 is off and means that micro modulation will not occur.

Typical value

0

Mutate No. Bars

Location

View 5

Description

Determines how many bars the voice will go before mutating (for Fixed Pattern or Repeat Bar Voice types only). If this is set to zero the voice will never mutate. If set to 2 for example, it will apply the mutation every 2 bars (provided the Mutate No. Bars Range parameter has been set to 0, otherwise it will randomly vary according to the range used). When using this in conjunction with a FixedPattern Voice Type make sure the parameter is set to the same number of bars as the pattern.

Range of Values

0 to 100

Typical value

3

See also

Mutation Factor
Mutate No. Bars Range
Mutation of Rhythm
Repeat Bar Voices (View 4)
Fixed Pattern Voices (View 5)

Mutate No. Bars Range

Location

View 5

Description

Defines the additional range of bars over which the Mutate No. Bars parameter will operate. I.E. if the Mutate No. Bars parameter is set to 5 and the Range parameter set to 3, then the voice will mutate every 5 to 8 bars (chosen at random, and when it comes to the 'end' of the selection/bars repeated it will choose a value again).

Range of Values

0 to 100

Typical value

3

See also

Mutation Factor
Mutate No. Bars
Mutation of Rhythm

Mutation Factor

Location

View 5

Description

Determines the degree of mutation for a FixedPattern or RepeatBar Voice Type if the Mutate No. Bars parameter has been set. The parameter affects the likelihood any note will change over the space of a bar. The parameter takes values between 0 and 1000, where a value of 1 represents 1/10 %. Therefore, if you set the value to say 200, every note being played from a pattern by that voice will have a 20% chance of changing (assuming you have set the Mutate No. Bars parameter to 1 and the Mutate No. Bars Range to 0).

The new notes chosen to play will be selected from the range of possible notes available as governed by the Harmony, Scale, Rhythm and Next Note Rules rules. The Mutation parameter will insert rests as often as it inserts notes.

Range of Values

0 to 1000

Typical value

150

Notes

1 The mutation developed by a pattern is remembered by the SKME. If you have a FixedPattern voice which is playing a pattern group containing 2 patterns, the voice can swap between these two patterns as it plays. If the first pattern has developed a certain mutation and the SKME chooses to play the second (it will choose patterns at random from the pattern group, throughout the piece), it will store the mutation of the first pattern. When the first pattern comes to play again it will play the pattern as it left off - and NOT the original pattern stored in the piece. The reason for this is to allow piece to develop freely.

2 If you have a pattern that is 10 notes long and the Mutation Factor is say 5 (=0.5% chance of mutation per note played, or 99.5% chance the note stays the same), then for every bar played there is a chance of 0.995 to the power of 10 (0.995 * 0.995 * 0.995 * 0.995 * 0.995 * 0.995 * 0.995 * 0.995 * 0.995 * 0.995 = 0.95) i.e. 95% that no note will change. On a similar principle, after 10 bars there is a chance of only 60% that no note will have changed (or a 40% chance that it will have changed). (These figures assume you have set the Mutation No. Bars to be 1, i.e. changing every bar).

By the same principle you can arrive at some interesting figures below (all assume a pattern of 10 notes and Mutation set to occur every bar):

Mutation Factor	Bars	Chance of a note in the pattern changing over bars given
5	1	5%
50	1	40%
5	5	23%
50	5	93%
5	10	40%
50	10	99.4%%

See also

Mutate No. Bars Range
Mutate No. Bars
Mutation of Rhythm
Patterns
Pattern Editor
Repeat Bar Voices (View 4)
Fixed Pattern Voices (View 5)
Harmony Rules
Next Note Rules
Next Note Rules
Rhythm Rules
Rules - Introduction

Mutation of Rhythm

Location

View 5

Description

Lets you determine whether or not you want to allow rhythmic values of patterns (or phrases) to be mutated by the **Mutation Factor** parameter. If set to Yes, then when a phrase mutates (determined by **Mutation Factor**) the duration of notes can be changed as well as the note pitches, according to the rhythm and scale rules in use by the voice (also fitting in with the Harmony and Next Note rules). If set to No, then the rhythmic content of the notes in the phrase will never change, only the note pitches. You can imagine this by thinking of a number of containers in a line stuck in some sand. The container never moves, but you can put different notes in them. The only proviso is that for this parameter the SKME treats a rest like a note. - that is, where a rest is really a note with specified duration but no pitch. Therefore, a rest within a phrase can mutate into a note with a pitch (and vice-versa - a note could become a rest for a while), but the duration of this note will not change. If you want to avoid this happening, make sure your pattern contains no rests.

Range of Values

Yes or No

Typical value

Yes

See also

Randomization and Mutation
Mutation Factor
Mutate No. Bars Range
Mutate No. Bars
Harmony Rules
Next Note Rules
Next Note Rules
Rhythm Rules
Rules - Introduction

Mute

Location

Each of the 15 views in the Power View and in Voice X view. See Common parameters.

Description

Mutes the currently playing voice. It works by setting the velocity to a minimum value (1), and it is possible you may will still be able to hear it very faintly. Click your left hand mouse button in the cell in the Mute column corresponding to the voice you want to Mute: a 'tick' means the voice is active; 'm' means it is muted. Alternatively, move to the square with one of the keyboard arrow keys and press the Enter button to toggle the mute on and off.

SOLO: Closely related to the muting functionality is the Solo capability. To Solo a voice, depress the CTRL key and select the mute cell with the left hand mouse button. This will mute every other voice in the piece, effectively 'soloing' the voice. To de-mute all the voices use the CTRL+ LHS mouse button combination again (alternatively use the '/' or '\' keys in the mute cell).

Range of Values

'tick' or 'm'

Typical value

'tick'

See also

Mute Lock

Mute Lock ? V2.0

Location

View 8

Description

If this parameter is set to Yes, then when you attempt to change the **Mute** state of the Voice by **Soloing** it, the Mute state will not change! You must have the Mute Lock ? parameter set to No, to be able to change the Mute state of a voice when **soloing**. You will still be able to mute the voice by muting, rather than soloing, it.

Tip : The purpose of this parameter is to enable you to define voices for special cases, such as "silent" (muted) voices which trigger a network of following voices; where you do not want to accidentally turn the muted voices on or off when soloing other voices in the piece.

Range of Values

Yes or No

Typical value

No

See also

Mute/Solo

Next Note Rule(s)

Location

View 8

Description

The Next Note rule determines for a voice how close any new note is likely to be in terms of pitch to the last note played by that voice. It will guide selection based on the pitches of notes possible as determined by the voice's Scale and Harmony rules. You can select which rule is used for a voice from the list of already pre-defined Next Note rules (which you can add to/modify in the Next Note rule Window by selecting the Next Note rule button on the top toolbar or selecting Groups Next Note Rules from the menu). The SKME calls on the probabilities defined in this rule when it comes to determining what the next note to be played by the voice will be. If the value is set to '?' it will use the Next Note rule defined at the piece level. Each voice can have its own distinct Next Note rule.

Range of Values

Can be set to any Next Note rules you may have created or a '?' If no rule specified it will use the Default rule.

Typical value

Default Next Note Rule

See also

Next Note Rule In Depth Explanation
Rules

Next Note Rule(s)

Location

Piece view 1

Description

The Next Note Rule (or list of rules) the piece uses. In View 6 set it to '?' if you want it left up to the piece to decide. You can set up a list of pre-defined Next Note rules from which a choice can be made every time the piece plays.

Range of Values

Any one of the Next Note rules you have available for the piece, as defined in a list.

Typical value

Default Next Note Rule

See also

Next Note Rule In Depth Explanation
Rules

Next Note Rule(s) Value

Location

Next Note Rule view

Description

Displays the Next Note Rule window, where you can see the probability bars for each Next Note rule defined/available. The probability bars determine the likelihood of the next note (i.e. the musical interval the next note played will be from the note just played).

Range of Values

Each bar can range from zero to maximum height, where the higher it is the more likely a note is to play.

Typical value

Mid range

See also

Next Note Rule In Depth Explanation
Rules

Notes V2.0

Location

View 8

Description

When a template is added to a piece in SSEYO Koan X (e.g. by dragging it in), then the value of the Notes parameter for the **FIRST VOICE IN THE TEMPLATE FILE** is displayed in the parameter panel. Be sure to set this information as you like !

Range of Values

Whatever you want, up to 32000 characters.

Typical value

Whatever you like.

See also

Piece Details dialog
How To Create Templates For Koan X

Pan (10) Env

Location

See the Envelope View

Description

This envelope determines the Stereo (pan) position of a voice as the piece plays.

Range of Values

0 to 127 (64 is the value for dead center, 0 is full left, 127 is full right)

Typical value

64

See also

Envelopes
Envelope Tools

Patch

Description

The patch (instrument) you want the voice to play. Patches can be standard GM Instruments, GS/XG MIDI Instruments with patch banks, SoundFonts, Fixed WAV files (i.e. no pitch shifting), WAV files (i.e. with pitch shifting/WAV map) or WAV BreakBeats (a series of WAV files linked together). See Common Parameter view.

Range of Values

- 1 to 128 for instruments or D1 to D128 for drums (patches with standard GM names are listed)
- GS Capital tones / XG banks can be added by adopting the syntax [Patch].[Bank], e.g. 6.8 is patch 6 bank 8, (generally another Electronic Piano No.2 patch), or D73.1 (Drum sound 73 bank 1). Bank 0 is the default General MIDI bank
- SoundFont compatible Banks and Advanced Gravis patches are supported in the same syntax [Patch].[Bank], e.g. 27.48 is patch 27 bank 48 or D43.1 is Drum sound 43 bank 1 (see below). See also the AWE64/AWE32/SB32/EMU8710 and Gravis parameters, as SSEYO Koan Pro is 1 based and SoundFonts files (SBK and SF2 files) are 0 based.
- WAV files may be defined using the syntax [Patch].[Bank] [WAV FILE NAME] WM=<…>, where WM=<…> is what we refer to as an optional WAV Map tag, where the information contained within the angled brackets defines additional information related to advanced WAV instrument playback. The available formats for this parameter are defined below.

Tip: When constructing pieces for others to use, keep in mind their are many different soundcards available. The quality of patches varies enormously across soundcards/synths. If you want to author pieces that will sound the same on any souncard, you might like to consider authoring pieces that solely use Wave files.

Tip: The maximum length of any Patch parameter string is 255 characters.

Typical value

015 -Tubular Bell

Usage

There are two ways to edit this parameter value. You will most likely use the first as it requires no knowledge of this particular parameters text string format, as does the second:

1. Either single-click on the Patch button, or highlight the cell (by tabbing/arrowing to the cell) and press Enter. This will launch the easy-to-use Edit Instrument control !
2. Power users might prefer to edit the parameter text directly, either by double-clicking the instrument area with the left mouse, or by tabbing/arrowing to the cell and pressing CTRL+Enter). The patch parameter can then be typed-in directly. Prior to Koan Pro V2.1, this was the only way of editing the Patch parameter.

Quick Examples (for case 2)

The format to use for the patch parameter in this case, is as follows :

63	Use patch 63
63.2	Use patch 63 from bank 2 (if there is nothing there it will default to bank 0)
63.2 fred.sbk	Use patch 63 from fred.sbk, loading it into bank 2 and to be played as patch 63
63.2 fred.sf2	Use patch 63 from fred.sf2, loading it into bank 2 and to be played as patch 63
63.2 fred.sbk 5	Use patch 5 from fred.sbk, loading it into bank 2 and to be played as patch 63
63.2 guitar.wav	Override the patch to use the indicated WAV file instead, if available. If the Wave file is not used, then MIDI patch 63 from bank 2 is to be used instead. No patch mapping is done for this parameter usage : it should be used only in those situations where you wish a WAV file to be used without patch mapping. This is the only WAV file usage format that was supported from Koan Pro V2.0.

1.2 default.wav WM = <n=guitar.wav f=0-127 s=-60>

Override the default.wav file to use the guitar.wav file instead, if available. WM = <…> is what we refer to as a WAV Map tag, where the information contained within the angled brackets defines additional information related to advanced WAV instrument playback. In this example, the patch is played across the range of MIDI frequencies from 0 to 127 inclusive, with the assumption that the specified patch was recorded at Middle C (MIDI frequency 60), hence the first note 0 is shifted down 60 semitones. If DirectSound 5 support is either not present or is disabled, then the first file default.wav is played without being frequency scaled.

Manually defining GS Capital Tones/ XG Banks

SSEYO Koan Pro supports Capital tones (part of the GS standard) and XG banks, where banks of sound other than the GM sounds can be triggered, if your soundcard has them. GS/XG compatible soundcards generally have a bank containing extra sounds (in ROM) related to the main GM patch (which is always located in bank 0). For example, patch 6 in GM terminology is Electronic Piano No 2 (located in bank 0 i.e. 6.0). GS soundcards also generally have another Electronic Piano No 2 patch in bank 8 (i.e. 6.8), which is related to the sound in bank 0.

Manually defining SoundFont patches

You can set up a patch parameter to automatically load-up a SoundFont patch into the Voice.

Note SoundFonts will only load if you have Yamaha XG System On set to No.

The format to use for the patch parameter in this case, is as follows :

63.2 fred.sbk	Use patch 63 from fred.sbk, loading it into bank 2 and play as patch 63
63.2 fred.sf2	Use patch 63 from fred.sf2, loading it into bank 2 and play as patch 63
63.2 fred.sbk 5	Use patch 5 from fred.sbk, loading it into bank 2 and play as patch 63

Tip: This technique is used heavily by SSEYO Koan X Platinum as you can use it to:

- Create voices which rely on SoundFonts, where you want to copy that voice as a building block voice around to other pieces.
- Create voices which use SoundFonts, where those patches change regularly through use of patch changing lists !
- Individual drum patch upload from SoundFonts does NOT work - this is not supported currently by the Creative Labs SoundFont drivers. If you wish a voice to use a Drum sound from a SoundFont file, then you must use the Piece-level AWE SoundFont Banks parameter to load-up a SoundFont file containing your drum SoundFont patches. A side-effect of this is that when mapping & mixing-up SoundFont piece, any drum SoundFont patches you require must be loaded when the piece starts.

Tip: When providing SoundFont files, it is always best to configure them so that someone without an AWE64/AWE32/SB32/EMU8710 can play the piece and it still sounds good (the patches default to bank 0 if no AWE64/AWE32/SB32/EMU8710 is present). This means assigning SoundFonts to the most appropriate patches in your SoundFont file.

Tip: We have introduced a new MIDI File tag called "SfPatchBank=" ... which is written when recording a Koan piece to a MIDI file. When such a piece is played-back using Koan Web, the special voice-level SoundFonts are loaded automatically.

General SoundFont Notes

1. Drum sounds (i.e. Percussive section in Vienna) in SoundFont compatible banks are treated as instrument number 128 (in 0 - 127 patch nomenclature), so a SoundFont compatible bank can contain its own drum bank. If you set up patches to use these drum sounds (e.g. you put a Snare sample in the percussive section of your SoundFont file at instrument 38, you would refer to it in your Koan piece as D38.1 if you were using bank 1) and none are defined within the SoundFont bank, the drums played will default back to those available within the drum bank defined in the Drum Set parameter.
2. If you use SoundFont bank drums you must define all drums in the piece as appearing to be in the bank - even if they are not. Otherwise, they can automatically default back the standard drum banks if the last drum patch the SKME looks at is a non-bank patch. E.g. all drums would need to be in the form DXXX.1 say, where XXX is the patch number.
3. If you have two or more voices using individual SoundFont patch loading, where each voice tries to load a different SoundFont patch into the same target patch / bank combination (e.g. 53.2); then one of the two SoundFont patches will be chosen at random to load into that patch / bank. In which case, we recommend that you change the banks / patches to prevent this conflict!

Manually defining Wave File patches (three main types)

You can set up a patch parameter to automatically load-up one or more WAV files into the Voice.

Note To use the multiple WAV playback features, you should have installed and enabled DirectSound 5 support !

The format to use for the patch parameter in this case, is as follows. Note that only three of these formats (the standard formats) are supported by the Edit Instrument control : all other formats must be entered by hand as text strings (see above for how to enter these strings). If you choose to enter these strings by hand, then you will need to take careful note of the descriptive examples below.

Tip: This technique is used heavily by SSEYO Koan X, as you can use it to:

- Create voices which rely on Wave files (WAV files), where you want to copy that voice as a building block voice around to other pieces.

- Create voices which use WAV files, where those patches change regularly through use of patch changing lists !

Note that you might experience occasional slight audible clicks when playing your piece using WAV files. This is a feature of the underlying implementation. You can help overcome this by tweaking offending WAV files with your favourite audio file editor tool, to remove any unwanted discontinuities at the start and end of the files.

Tip : various of the features of Koan Pro (especially the Koan ADSR parameters !) can be used to compensate for these clicking effects. Koan ADSR effects even work with Auto Chord Parameters voices, when using WAV file patches ! Clicks are generally not noticeable when using WAV breakbeats, however !

Tip : the reason why some of these examples are complicated, is that we have designed this parameter to be very powerful and flexible. In general, you will only need to edit the parameter string by hand if you really want to get to detailed WAV instrument effects.

Fixed Wave (standard format)

63.2 guitar.wav Override the patch to use the indicated WAV file instead, if available. If the Wave file is not used, then MIDI patch 63 from bank 2 is to be used instead. No patch mapping is done for this parameter usage and only 1 WAV file can be played back at the same time unless you are using DirectSound 5: it should be used only in those situations where you wish a WAV file to be used without patch mapping. This is the only Wav file usage format that was supported in Koan Pro V2.0 and this is the only Wave file usage format that you can use with 16-bit versions of Koan Pro. This is one of the three formats recognised by the Edit Instrument control.

Wave (standard format)

1.2 guitar.wav WM=<n=guitar.wav f=0-127 s=-60>

Override the patch to use this WAV file instead, if available. WM=<…> is what we refer to as a WAV Map tag, where the information contained within the angled brackets defines additional information related to advanced WAV instrument playback. The patch is played across the range of MIDI frequencies from 0 to 127 inclusive in this example, with the assumption that the specified patch was recorded at Middle C (MIDI frequency 60). The WAV file is scaled in pitch automatically as notes are composed, to match the composed frequency. This is one of the three formats recognised by the Edit Instrument control. Tip : this is a very important format to use - it is the basis for most Wave file based instruments !

Wave Break (standard format)

1.2 mybrk01.wav WM=<n="mybrk*.wav" f=60 *=01-23>

This is the only other format recognised by the Edit Instrument control. : it is a Wave break.

WAV breakbeats are made-up of a number of small files, which might be named something like :

mybrk01.wav
mybrk02.wav
mybrk03.wav
mybrk04.wav
…
mybrk23.wav

This example tells Koan Pro to use all files matching the format mybrk*.wav, where all files in the range 01 to 23 inclusive are substituted for the * symbol (*=01-23). File mybrk01.wav is searched for first, moving on in numeric sequence up to and including mybrk23.wav (if it exists !), to make-up the breakbeat. If the file mybrk03.wav could not be found in our example, then only the files named mybrk01.wav and mybrk02.wav would actually be used.

In this example, f=60 defines the Forced Frequency at which the generative breakbeat works (this is a term used by Koan Pro). In this case, this is at Middle C (otherwise known as C4 - or MIDI pitch 60). If you know differently, then you should change this value : otherwise, your breakbeat may sound odd ! When a note is played at this pitch, the first listed breakbeat file will be played. When a note is played at this pitch + 1 semitone, the second listed breakbeat file will be played; etc.

Freq 60 - play mybrk01.wav
Freq 61 - play mybrk02.wav
Freq 62 - play mybrk03.wav
Freq 63 - play mybrk04.wav
Freq 64 - play mybrk05.wav
…
Freq 84 - play mybrk23.wav

Nothing is played for any notes composed outside of these ranges.

Wave (advanced formats)

The following are all examples illustrating the options that are available if you edit the patch parameter by hand. They can be quite complex, and are likely to be used only by power users! Please also refer to the section WAV tag Syntax summary below.

1.2 guitar.wav WM=<l=guitar.wav f=0-127 s=-60>

As above, except note the use of l= rather than n=. This means to play the sample (Wave file) in a LOOP, rather than NORMAL (not looping). This can be very useful if you have long repeating samples, played e.g. by ambient voices, where you consider it appropriate to play each note as a sample loop instead.

1.2 guitarx.wav WM=<n=guitar.wav f=24-95 s=--36>

Similar to the above example, The patch is played only where the composed frequency is within the range of MIDI frequencies from 24 to 95 inclusive : which is around 5 octaves. Whenever notes are composed outside of this range, the WAV file is not played. The original WAV file is assumed to have been recorded at two octaves below Middle C (MIDI frequency 36).

1 piano.wav WM=<f=48-59 n="piano.wav" s=0 f=60-71 n="organ.wav" s=-24 f=72-83 n="guitar.wav" s=12>

Things are now starting to become a little complicated ! This example illustrates the use of a keyboard split, where notes for a voice within different frequency ranges, can be played-back using different Wav file samples depending on the frequency band of the composed note. Please pay careful attention to the wording of this example …

- Between the frequency ranges of 48 and 59, the file piano.wav is used; the piano recording is assumed to have been recorded at frequency 48, so we start with no frequency shift (s=0). For every note beween 48 and 59 inclusive, this WAV file is played offset by one

semitone (48 is not offset, 49 is offset up by one semitone, 50 is offset up by two semitones, etc).

- Between the ranges 60-71, the file organ.wav is played instead in a similar manner : however, because this wav file was actually recorded two octaves higher than 72 (at frequency 96), we define the initial pitch shift to be -24 semitones (s=-24) : then, the first note (72) results in organ.wav being played offset down by 24 semitones. 72 is played offset down by 23 semitones, 74 is played offset down by 22 semitones, etc.
- From composed frequencies 72-83, the file guitar.wav is used. Because guitar.wav was recorded at frequency 60, we start by playing note 72 offset up by 12 semitones, note 73 is offset up by 13 semitones, etc.
- Outside of the composed frequency range 48-83, nothing is played.

Composed Frequency : 48 - Play piano.wav + 0 semitones
...
Composed Frequency : 59 - Play piano.wav + 11 semitones
Composed Frequency : 60 - Play organ.wav - 24 semitones
...
Composed Frequency : 71 - Play organ.wav - 13 semitones
Composed Frequency : 72 - Play guitar.wav + 12 semitones
...
Composed Frequency : 83 - Play guitar.wav + 23 semitones

Nothing is played for any notes composed outside of the above frequency ranges.

Tip : only one copy is loaded into memory of each of the three waveforms: the process is quite memory-efficient !

1 piano.wav WM=<n="piano*.wav" f=48-59 s=0 *=1 f=60-71 *=2 f=72-83 *=3>

This is another complicated keyboard split example, illustrating how to mimic a three-octave piano using three small piano WAV samples, with a different sample being used for each octave. Where a string like piano*.wav is found, the actual wave file to used for a given frequency is defined by substituting the value for s, defined in this example by the *=1 and *=2 syntax.

- Between the frequency ranges of 48 and 59, the file piano1.wav is used (the syntax *=1 component means get the file name to use by substituting 1 for * in the string piano*.wav); the piano recording is assumed to have been recorded at frequency 48, so we start with no frequency shift (s=0). For every note beween 48 and 59 inclusive, this WAV file is played offset by one semitone (48 is not offset, 49 is offset up by one semitone, 50 is offset up by two semitones, etc).
- Between the ranges 60-71, the file piano2.wav is played instead in a similar manner (the *=2 syntax means get the file name to use by substituting 1 for * in the string piano*.wav). For every note beween 60 and 71 inclusive, this WAV file is played offset by one semitone (60 is not offset, 71 is offset up by one semitone, 72 is offset up by two semitones, etc).
- From composed frequencies 72-83, the file piano3.wav is used (get the file name to use by substituting 1 for * in the string piano*.wav). For every note beween 72 and 83 inclusive, this WAV file is played offset

by one semitone (72 is not offset, 73 is offset up by one semitone, 74 is offset up by two semitones, etc).

- Outside of the composed frequency range 48-83, nothing is played.

  Composed Frequency : 48 - Play piano1.wav + 0 semitones
  ...
  Composed Frequency : 59 - Play piano1.wav + 11 semitones
  Composed Frequency : 60 - Play piano2.wav + 0 semitones
  ...
  Composed Frequency : 71 - Play piano2.wav + 12 semitones
  Composed Frequency : 72 - Play piano3.wav + 0 semitones
  ...
  Composed Frequency : 83 - Play piano3.wav + 12 semitones

  Nothing is played for any notes composed outside of the above frequency ranges.

  Tip : only one copy is loaded into memory of each of the three waveforms: the process is quite memory-efficient !

WAV tag Syntax summary

For those who are somewhat technically minded, the following outline is provided to help in understanding the above examples. We have not formally defined the syntax used, mainly because we feel that most people will not need to know this information; so we are providing this information primarily for those users who are interested in really experimenting at the limits of the product, within the context of the above examples. Note that in general, values within the WAV Map tag (WM=<…>) are left-to-right associative, and include the following symbols :

n=wavefile.wav	The string n= means that the defined wave file (wavefile.wav in our example) is to be played in a non-looping manner. The WAV name might optionally contain a "*" character - in which case subsequenct *= strings may be substituted in for the * character, to give the file name to use. "" marks around the waveform name are optional : though you must use them if there is a space in the file name.
l=wavefile.wav	As above, except the string n= means that the defined wave file (wavefile.wav in our example) is to be played in a looping manner.
f=60	Defines the frequency for which to load the previously defined wave file (in our example, f=60 : means to use 60 - i.e. Middle C)
f=48-60	This means that all pitches in the defined frequency range, should use the previously defined wave file, up to any subsequent f= statement (if any !)
*=1	This is used to generate the wave file name to be used for the current frequency, by using character substitution. The number specified after the equals sign (1 in our example) is substituted for any * character in the wave file name. E.g. if we saw n=break*.wav f=60 *=1, then for frequencies 60 and up, the file break1.wav would be loaded-up.
*=1-20	This is simiilar to the above example; the range of numbers specified after the equals sign (1 to 21 in our example) are substituted for any * character in the wave file name. For example. if we saw n=break*.wav f=60 *=01-23, then for frequency 60, the file break01.wav would be used. For frequency 61, the file break02 would be used, etc.; all the way up to frequency 83, where the file break23 would be used. Note the use of the leading zero in the first example *= number; if *-1-23 were used instead,

then files break1.wav, .. break9.wav, break10.wav, break11.wav … etc would be used instead.

s=1 The amount of semitone shift to apply to the currently defined wave file (our example defines this semitone shift as 1). We use this to take the original Wave file, and cause it to be played back at a frequency which is determined by the currently composed note frequency. The semitone shift value may be negative (e.g. s=-60)- the usual value is 0 (which means : dont use any semitone shifting). If any value other than 0 is defined, then this semitone shift will be incremented automatically by one semitone for every subsequent frequency value (up to the next s= statement, if any). If you use s=x, then this will disable any semitone shifting for subsequent frequencies (unless another s=… value is defined later in the patch string).

See also

Adding/ modifying an instrument
Polyphony and the Drum Set
AWE SoundFont Banks
AWE EMU8000 Controllers
Yamaha XG Controllers
Randomization and Mutation
Wave File
Edit Instrument Control

Patch Change Bars

Location

View 2

Description

Determines how often the Patch parameter for a voice will change during the playing of a piece. The way it works is that after the number of bars set for the parameter the SKME will make a random selection from the list of defined patches for that voice (if a list has been defined).

Range of Values

0 to 100 (values in 'bars')

Typical value

10

This parameter is only for use where you have defined a list of instruments from which to choose. A value of 0 will mean it never changes. The prime purpose of this parameter is to allow you to easily inject some variety into the piece by changing the instrument for a particular voice, as the piece plays.

This is most effective if for your voice you use instruments that are similar. I.E. if you have a list of Clean Guitar, Jazz Guitar, Acoustic Guitar and Mute Guitar the SKME will choose at random which out of these is chosen to play next. This parameter mean you do not have to define a voice for each and every instrument you want to hear throughout a piece.

It may be best not to change the patch too often so that the piece has a chance to settle in.

See also

Patch
Patch Change Bars Range

Patch Change Bars Range

Location

View 2

Description

Determines the range (in terms of bars) over which the Patch will change if the Patch Change Bars parameter has been set.

Range of Values

0 to 100

Typical value

5

See also

Patch
Patch Change Bars

Patterns

Location

View 5

Description

Allows musical seed phrases of any length to be used in a piece, around which the SKME can compose in real time. These patterns can be mutated, allowing you to start a piece with a seed phrase, and have it change over time as the piece plays.

This parameter is absolutely key to creating generative dance or other uptempo modern generative music! It may be complex, but that is because it is very powerful. Once you have got to grips with it you will be able to do some very exciting material.

To make use of a pattern, your voice must be of FixedPattern voicetype. At 'play-time', the pattern is chosen from a subset (if present) of patterns contained within the **pattern group** (a collection of patterns (also referred to as sub-patterns)).

Three types of patterns can be created, **Rhythm only** ®, **Frequency and Rhythm** (**B**) (Both), and **Forced Frequency** (**F**). These patterns can then be **Sequenced** (**S**). The patterns are stored in a special text syntax which defines frequency (pitch), note length and other values. However, it is not necessary to know this format while using the Pattern Editor.

The presence of the "**.M**" .string in a sub-pattern, indicates that the containing sub-pattern is "muted", and will not be played. This feature can be particularly useful for testing complicated sequence of sub-patterns. For example, a probability which looks like e.g. 100.M indicates that the sequence s "M"uted, or temporarily prevented from being selected.

Range of Values

The actual string length (the number of text characters that can be used to describe a pattern group) supported by the Patterns parameter is up to around 32,000 characters; this string can contain as many patterns as you wish, based on the syntax given below. Each pattern can be as long as you wish within the character limit. Patterns support notes outside an octave but

the value of 1 always represents the Root note, as governed by the Pitch parameter, meaning that negative FREQUENCY values have no meaning. If you enter a pattern that does not constitute an integer number of bars (i.e. 3 ½ bars) the SKME will continue the pattern with rests until it reaches the end of the pattern, and can start playing it again (unless you have set the Meter of the voice to be 1:4 - see Meter).

Multiple Patterns

SSEYO Koan Pro provides a powerful feature where you can have multiple patterns in your pattern group. One pattern will be chosen from this group of patterns, based on the relative likelihood of each pattern occurring, when the SKME next plays a pattern. The SKME velocity and volume envelopes mean that this can create very realistic sounding players and adds a new dimension to this "roll the dice" approach.

Typical value and format of a pattern group:

There are two different syntaxes, one for melodic/rhythmic/force frequency patterns and the other for sequence patterns. Patterns can be strung together (thus creating the concept of sub-patterns - each pattern becomes a sub-pattern of a larger pattern string); emboldening in the examples below is purely to indicate that most of the pattern information is in pairs. :

Melodic/Rhythmic/Force Frequency

Typical Rhythmic e.g. <100 R **60** 30 **60.127** 15 >

Typical Melodic e.g. <100.M B **60.15-30 1** 30 2 **60.127 3** 15 7 >

Typical Forced Freq. e.g. <100. F60 **60.127 1** 30 4 30 5 **15.70-120 7** >

Sequence

Sequence e.g. <S100.M R **1-0.1-0** 2-0.1-0 **3-0.1-0** >

Rhythmic Patterns/Melodic/Force Frequency Patterns

Syntax:

<[%][.M] [B or R or F[ROOT]] [DU][.VM[-VR]] [SI] [DU][.VM[-VR]] [SI] [DU][.VM[-VR]] [SI] >

Where:

%	**relative** probability of being chosen when there is more than one pattern group.
M	Mute the sub-pattern (optional)
B	Both pattern type
R	Rhythm pattern type
F	Force Frequency pattern type
ROOT	Root note at which the pitch information is anchored (e.g. the minimum pitch)
DU	Note Duration
VM	Velocity Force Factor (optional)
VR	Velocity Force Factor range (optional)
SI	Scale interval (not required for Rhythm patterns)

Tip: If the Velocity factors are not specified then the note will play according to the velocity rules. The Velocity forcing feature is very useful for constructing patterns where specific emphasis is important for specific notes within a pattern.

Tip: If your drum velocity envelope is right up the maximum, then you won't be able to notice any "velocity boost" effect (i.e. values > = 100). Values < 100, which cause the velocity to be de-emphasized, will however be noticeable. Therefore, you might like to set your Velocity

envelope to be somewhat less than the absolute maximum. (Similarly, consider your velocity range envelope).

The note durations are provided as follows:

Value	Duration (US)	Duration (UK)	Negative value
240	Whole note (1)	Semibreve	Rest
180	Dotted half note (1/2.)	Dotted minim	Rest
120	Half note (1/2)	Minim	Rest
90	Dotted quarter note (1/4.)	Dotted crotchet	Rest
60	Quarter note (1/4)	Crotchet	Rest
45	Dotted eighth note (1/8.)	Dotted quaver	Rest
30	Eighth note (1/8)	Quaver	Rest
15	Sixteenth note (1/16)	Semiquaver	Rest
20	Triplet quarter note (Tr)	Triplet crotchet	Rest

Rhythmic patterns

In a Rhythmic pattern you do not need to specify a scale interval (SI), because all you are concerned with is when a note plays, not what the note is (the SKME will generate the notes and according to the Scale and Harmony rules present in the voice). Rhythmic patterns are therefore ideal for creating drum patterns where no pitch information is required, or for creating musical phrases where you are content for the SKME to do all the harmonization and note selection, based on the rhythmic pattern you have supplied.

[DU][.VM[-VR]]

e.g. -60	Rest of duration 60 (quarter note)
e.g. 60	Note of duration 60 (quarter note), velocity unspecified
	This has the effect of playing the note with a velocity derived from the velocity envelopes.
e.g. 60.100	Note of duration 60 (quarter note), velocity force factor of 100 %.
	This has the effect of playing the note with the normal velocity, as derived from the velocity envelopes - and therefore has no additional effect.
e.g. 60.90	Note of duration 60 (quarter note), velocity force factor of 90 %.
	This has the effect of playing the note with the normal velocity, as derived from the velocity envelopes, but at only 90% of that level. i.e. the velocity is REDUCED by 10%.
e.g. 60.110	Note of duration 60 (quarter note), velocity force factor of 110 %.
	This has the effect of playing a note with the normal velocity, as derived from the velocity envelopes, but at 110% of that level. i.e. the velocity is BOOSTED by 10%.
e.g. 60.90-20	Note of duration 60(quarter note), velocity force factor of between 90% and 110 %.
	This has the effect of playing a note with the normal velocity, as derived from the velocity envelopes, but at between 90% and 110% of that level. i.e. the velocity may be either REDUCED by 10% or INCREASED by 10%, or any level within those extremes.
e.g. 5	Special value being 5/60ths of a quarter note
	This custom value can only be entered via the Text Edit menu item of the Group menu of the Pattern Editor (see note 1).

e.g. (where each pattern has a *relative* probability of playing of 100):

<100 R 60.120 60 60 60>	emphasize the first note velocity by 20%
<100 R 60.100-20 60 60 60>	emphasize the first note by between 0 and 20%
<100 R 60 60 60 60.80-10>	de-emphasize the last note by between 10 and 20%
<100 R 60 60 60 -30 30 >	play 3 quarter notes, followed by an eighth note rest and then another eighth note

Tip: Use blank patterns to create spaces.

Melodic patterns

In a Melodic pattern, in addition to specifying the note durations, you need to specify the scale intervals to be used for each note; this is so you can describe create real melodies (which have both duration and pitch). The reason you can use a scale interval rather than a fixed pitch (which would be more like a MIDI file format - see Force Frequency patterns below), is so that you can change the scale rule used by the voice and the melody will automatically adjust according to what notes are available in the new scale rule. Note: A Scale Interval (SI) of 1, means play the root note at the minimum possible pitch as defined by the Pitch parameter; a SI of 0 represents a rest.

[DU][.VM[-VR]] [SI]

e.g. 60 0	A rest of duration 60 (quarter note)
e.g. 60 3	Note of duration 60 (quarter note), velocity unspecified, 3rd interval This has the effect of playing the note with a velocity derived from the velocity envelopes and with a pitch 2 scale rule intervals above the root.
e.g. 60.100 4	Note of duration 60 (quarter note), velocity force factor of 100 % with 4th interval. This has the effect of playing the note with the normal velocity, as derived from the velocity envelopes - and therefore has no additional effect - and with a pitch 3 scale rule intervals above the root.
e.g. 60.90 18	Note of duration 60 (quarter note), velocity force factor of 90 % with 18th interval. This has the effect of playing the note with the normal velocity, as derived from the velocity envelopes, but at only 90% of that level (i.e. the velocity is REDUCED by 10%) and with a pitch 17 scale rule intervals above the root.
e.g. 60.110 5	Note of duration 60 (quarter note), velocity force factor of 110 % with 5th interval. This has the effect of playing a note with the normal velocity, as derived from the velocity envelopes, but at 110% of that level (i.e. the velocity is BOOSTED by 10%) and with a pitch 4 scale rule intervals above the root.
e.g. 60.90-20 13	Note of duration 60(quarter note), velocity force factor of between 90% and 110 % with 13th interval. This has the effect of playing a note with the normal velocity, as derived from the velocity envelopes, but at between 90% and 110% of that level (i.e. the velocity may be either REDUCED by 10% or INCREASED by 10%, or any level within those extremes) and with a pitch 12 scale rule intervals above the root.

e.g. (where each pattern has a *relative* probability of playing of 100):

<100 B 60 1 60 2 60 3 60 4>	play 4 quarter notes, each one being one scale rule interval higher up in pitch than the last, starting at the root note
<100 B 60.100-20 3 180 0>	emphasize the velocity of first note by between 0 and 20%, followed by a dotted half note rest
<100 B 240 0 180 6 60.80-10 5>	2 bar phrase, first bar is a rest followed by a dotted half note at 5 scale rule intervals from the root, and de-emphasizing the last note by between 10 and 20%
<100 B 240 1><50 B 240 15>	Two one bar sub-patterns, first playing the root note for a bar, the second playing a note at 14 scale rule intervals from the root for a bar. To work out the likelihood of each pattern playing, add up the probability factors (100+50=150) and then divide each factor by this total. The first pattern is likely to play 100/150=66% of the time, the second 50/150=33% of the time.

Tip: Use blank patterns to create spaces.

Forced Frequency patterns

Patterns of type 'F' may FORCE MIDI frequencies to be sent (and durations), irrespective of the scale rule(s), harmony rule(s) or next note rule(s) in use by a voice or the root used by the piece. In other words, they are used to define patterns of fixed pitches. Their main application, and for which they are extraordinarily useful, is for creating Break Beats made up of individual SoundFont samples (all anchored to specific pitches in the SoundFont bank), or for specific General MIDI drum patches. Note: A Scale Interval (SI) of 1 represents the actual Forced pitch; a SI of 0 represents a rest.

The example shown, will send MIDI frequency information of 60, 61, 62, and 63 to the Voice's MIDI line, using the current patch.

[DU][.VM[-VR]] [SI]

We assume here that the Force Frequency pattern parameter (F[ROOT] - see syntax above) is set to F45 (note A at octave 2 - MIDI pitch 45)

e.g. 60 0	A rest of duration 60 (quarter note) - no pitch information.
e.g. 60 3	Note of duration 60 (quarter note), velocity unspecified, with pitch at 2 semitones above the Forced pitch. This has the effect of playing the note with a velocity derived from the velocity envelopes and with a MIDI pitch 47.
e.g. 60.100 4	Note of duration 60 (quarter note), velocity force factor of 100 %, with pitch 3 semitones above Forced pitch. This has the effect of playing the note with the normal velocity, as derived from the velocity envelopes - and therefore has no additional effect - and with a MIDI pitch of 48.
e.g. 60.90 18	Note of duration 60 (quarter note), velocity force factor of 90 % with pitch 17 semitones above Forced pitch. This has the effect of playing the note with the normal velocity, as derived from the velocity envelopes, but at only 90% of that level (i.e. the velocity is REDUCED by 10%) and with a MIDI pitch of 62.
e.g. 60.110 5	Note of duration 60 (quarter note), velocity force factor of 110 % with pitch at 4 semitones above the Forced pitch.

This has the effect of playing a note with the normal velocity, as derived from the velocity envelopes, but at 110% of that level (i.e. the velocity is BOOSTED by 10%) and with a MIDI pitch of 48.

e.g. 60.90-20 13 Note of duration 60(quarter note), velocity force factor of between 90% and 110 % with pitch at 12 semitones above the Forced pitch.

This has the effect of playing a note with the normal velocity, as derived from the velocity envelopes, but at between 90% and 110% of that level (i.e. the velocity may be either REDUCED by 10% or INCREASED by 10%, or any level within those extremes) and with a MIDI pitch of 57.

Example 1 - GM Drum Kit

(where each pattern has a *relative* probability of playing of 100):

Create a voice with Patch set to 001 - Acoustic Grand Piano, MIDI Line set to 10, Harmonize = No, and then create a Forced Frequency sub-pattern as follows (copy and paste this in to the Text Edit box if you like):

<100 F33 30 1 30 2 30 0 30 3 30 4 30 0 30 5 30 6>

The drum patches played here are: 33, 34, (rest), 35, 36, (rest), 37, 38. Note that this particular example will not work on the Gravis UltraSound or any soundcard, which cannot have patches referred dynamically in this manner (unless you have specifically created background muted voices that exist purely to preload the necessary patches).

Tip: MIDI line 10 is special. Every other MIDI channel is just like a big piano, in that one instrument is played across the whole pitch spectrum (from low notes to high notes) and you can change this instrument at will (the patch)-. Imagine that every key on this imaginary piano triggers a different sound, not a different pitch of the same sound. It just so happens that these sounds are hard wired in and they are drums. That is why channel 10 it is different. So, when you send out continuous pitch information on channel 10, you get different drums sounds being played!

Example 2 - Sampled Drum Kit

(where each pattern has a *relative* probability of playing of 100):

Create a voice with Patch set to e.g. 002.044 70S115.SF2 (e.g. PATCH.BANK FRED.SF2)

Set MIDI Line to 0, set Harmonize = No, and create a Forced Frequency sub-pattern as follows (copy and paste this in to the Text Edit box if you like):

<100 F60 15 1 15 2 15 3 15 4 60 5 60 6 30 0 30 7>

This will play patches of the SoundFont in bank 44 as follows: 60, 61, 62, 63, 64, 65, (rest), 67. Naturally, you need a special drum SoundFont bank for this, one where there is a drum sample on each pitch - these type of SoundFont banks are generally created from Breakbeats.

SEQUENCED SUBPATTERNS (S)

Syntax

<[S][%][.M] [R] [SN[-SNR].[RT[-RTR]] [SN[-SNR].[RT[-RTR]] >

Where:

S Tells the SKME that this is a Sequence pattern

% **relative** probability of being chosen when there is more than one sequence pattern group

M Temporarily Mute the sub-pattern (optional)

R Rhythm pattern type

SN Sequence Number

SNR Sequence Number Range

RT Repeat Times Minimum

RTR Repeat Times Range

Note A Sequence Number value of “0”, will cause *any* sub-pattern to be selected at random to be played, relative to the relative note sub-pattern probabilities, for the specified number of Repeat Times.

Note A Repeat Times value of “0”, will cause that sub-pattern to be played CONTINUOUSLY, TO THE END OF THE PIECE.

[SN[-SNR].[RT[-RTR]]

e.g. 1.3 which means repeat Note Pattern number 1, for 3 times.

e.g. 1.3-6 which means repeat Note Pattern number 1, for between 3 and 9 times.

e.g. 2-4.3 which means repeat **one** of the Note Patterns numbered between 2 and 4 inclusive (chosen according to their relative probabilities), for 3 times (i.e. not choose play, choose play, choose play).

e.g. 2-4.1-1 which means repeat **one** of the Note Patterns numbered between 2 and 4 inclusive (chosen according to their relative probabilities), for between 1 and 2 (1+1) times.

Example 1: Simple sequence sub-pattern:

<S100 R 1.4 2.1 3.1-3 2.1>

This is interpreted as follows :

1 The “S” identifies this as a sequence sub-pattern. The “100” defines the relative probability of this pattern being used, relative to any other sequence sub-patterns that are defined.

2 Start by playing sub-pattern #1 x 4 times, Next, play sub-pattern #2 x 1 time, Then, play sub-pattern #3 between 1 and 4 times, Finally, play sub-pattern #2 x 1 time

Example 2: Simple sequence sub-pattern

<S20 R 1.4 2.4 0.1>

The 0.1 means play ANY sub-pattern at random, for just one repeat. i.e. after playing sub-pattern 1 x 4 times, then 2 x 4 times, we then play any sub-pattern, chosen at random, for 1 time.

Example 3: Complex Pattern Group:

Note The Pattern Group contains all the sub-pattern and sequence pattern information

<100 B 60 1 60 2 60 3 60 4>	Note sub-pattern #1
<100 B 60 4 60 3 60 2 60 1>	Note sub-pattern #2
<100 B 60 1 60 3 60 2 60 4>	Note sub-pattern #3
<100 B 60 1 60 2 60 3 60 4>	Note sub-pattern #4
<S100 R 1.4 2.1 3.1-4 2.1>	play sequenced sub-patterns, as per above example.
<S10 R 1.4 2.1 3.1 2.1>	different relative %age change of playing
<S20 R 1.4 2.1 3.2 2.1>	play subpat 3 a different number of times
<S20 R 1.4 2.1 3.3 2.1>	play subpat 3 a different number of times
<S20 R 1.4 2.1 3.3 4.0>	the 4.0 means PLAY #4 to the END OF PIECE !

<S20 R 1.4 2.4 0.1>	the 0.1 means play ANY sub-pattern at random, once.
<S20 R 1.4 2.4 0.2-4>	as above, but play any sub-pattern, for from 2 to 6 bars.
<S20 R 1.4 2.4 0.0>	as above, but play any sub-pattern, UNTIL PIECE END.
<S20 R 1.4 2-3.4 4.1>	play subpat #1 for 4 times, subpat #2 or #3 for 4xtimes, subpat #4 for 4xtimes.
<S100M R 1.4 2.1 3.1 2.1>	Muted option !!!

Each of the non-muted Sequence sub-patterns shown above, may be selected chosen randomly according the relative sequence probability. The selected sequence is followed through to the end of the sequence, and then another sequence is chosen at random etc. etc.

General Notes:

1 No pattern string may be > 32000 characters.

2 Although the Rhythm Rules do not support note values over 240 the Patterns parameter does (for rhythmic/melodic/force frequency pattern types) It also supports notes of any duration/values i.e. 23. You can manually enter patterns with rhythmic values being any number between 1 and 15,000, thus allowing for really fine tuning and special rhythmic effects. The Pattern Editor will only allow entry of notes with a resolution at the current Snap setting. To edit your pattern manually, you must first open the Pattern Editor and then select Text Edit from the Groups menu.

3 All pieces in time signature X/8 are measured in triplets, meaning that note values of 20 are used for note values below a quarter note (crotchet), i.e. 12/8 counts as 12 beats of a triplet, meaning that the total bar length is 12 * 20 * 3 = 720. The total bar length for 5/4 on the other hand is simply 5 * 60 = 300.

4 The percent value in a pattern definition is a **relative** probability of being chosen when a pattern group contains more than 1 pattern.

5 Each pattern group can contain one or many patterns. Having many in a pattern group will allow you to set up different variations on a melody or on a drum beat; these variations each have a percentage chance of being played.

6 The Pattern will contains **pairs of numeric values** for a Both or Forced type, or **single values** for a Rhythmic type - and you must put one space between each number if editing by hand.

7 It is possible to declare lists of pattern groups from which voices can choose to play. In this case, each time the SSEYO Koan piece plays, the appropriate voice will choose to play one of these pattern groups, each pattern group having the capacity to contain many patterns as mentioned above (see below for further details). The pattern group used by the voice will only be changed on re-starting the piece.

8 The patterns are read through in real time, so if you make a change to a pattern whilst a piece is playing you will hear it the next time that pattern is played (if it is a one bar pattern, then that will be the next bar).

9 If your pattern does not include enough notes to reach the end of a bar the pattern will be 'filled out' with rests to give it enough notes to reach the end of the bar (although you can set the Meter at the voice level).

10 If you have set up your piece to use a list of meters (time signatures, i.e. ¾ 6/8 etc.) the pattern will be 'filled out' with rests to give it enough notes to match up to the new meter.

See also

Piece Root Patterns
Pattern Editor

Pattern Bars %
Mutation Factor
Mutate No. Bars
Scale Rule(s)
Randomization and Mutation

Pattern Use %

Location

View 5

Description

Dictates how likely it is that the pattern group specified with the Patterns parameter will be played. Pattern Use Percent is the percentage average number of bars to play a fixed pattern (the rest are composed normally, or perhaps repeated). If this is set to 100 then one of the patterns in the selected pattern group will play every time. If any other value is set then there will be bars where the pattern does not play and the normal rules (Scale, Harmony, Next Note, Rhythm) used by the voice will take over.

Range of Values

A percentage from 0 to 100

Typical value

50

Note You can define a number of patterns within a pattern group, that the SKME will choose from every time it gets to the end of the pattern.

See also

Patterns
Mutation Factor
Mutate No. Bars

Phrase Gaps

Location

View 1

Description

Minimum number of rest notes that separate the phrases composed by the SKME for Rhythmic and Ambient Voice Types (or mutated RepeatBar and Fixed Pattern Voice Types). The rests are generated according to the Rhythm rule used by the voice, in the same way as notes are generated. This means if your Rhythm rule only allows 1/16th notes, then each rest will be for a 1/16th note.

Range of Values

Depends on what you are trying to achieve, the bigger the number the less busy the piece

Typical value

3

See also

Phrase Gaps Range
Phrase Length Range
Phrase Length
Phrase Note Rest %
Rules - Introduction
Voice Types

Phrase Gaps Range

Location

View 1

Description

Range of the number of rest notes to be expected between a phrase, over and above the minimum value

Range of Values

Depends on what you are trying to achieve, the bigger the number the less busy the piece

Typical value

8

See also

Phrase Gaps
Phrase Length Range
Phrase Length
Phrase Note Rest %
Rules - Introduction
Voice Types

Phrase Length

Location

View 1

Description

The minimum number of notes that are strung together in a 'phrase'. The Phrase Length parameter gets its note durations from the Rhythm rule used by the voice. For instance, say the Phrase Length parameter had a value of 5 and it was using a Rhythm rule that equally allowed only quarter notes (crotchets) and eighth notes (quavers). Every time a note was played (and 5 would be played together in a 'phrase', with no rests in between the notes) it would choose to play a note with either of those durations. After this, it would use the Phrase Gaps parameter to determine how long to wait before playing another 'phrase'. The way to break up a phrase to allow rests in the middle is to use the Phrase Note Rest % parameter.

Range of Values

0-32,000

Typical value

2

See also

Phrase Gaps Range
Phrase Gaps
Phrase Length Range
Phrase Note Rest %
Rules - Introduction
Voice Types

Phrase Length Range

Location

View 1

Description

Range of number of notes to be expected in a phrase over and above the minimum value.

Range of Values

1-32,000

Typical value

6

See also

Phrase Gaps Range
Phrase Gaps
Phrase Length
Phrase Note Rest %
Rules - Introduction
Voice Types

Phrase Note Rest %

Location

View 1

Description

Determines how many notes to 'leave out' when a phrase is being generated. This parameter defines the probability that one of the notes generated in a phrase will be a rest instead. The rest value will have the same duration as would the note it is replacing. In addition to allowing a thinning out of notes it will also break up phrases (which are not otherwise broken up, as the SKME treats a phrase as a continuous stream of notes) so as to allow to sound more natural. This parameter works with all Voice Types and uses the Rhythm rule defined for the voice.

Range of Values

0 - 100%

Typical value

10%

See also

Phrase Gaps Range
Phrase Gaps
Phrase Length Range
Phrase Length
Rules - Introduction
Voice Types

Piece Demo Time

Location

Piece view 2

Description

Allows a piece to be foreshortened and stop playing before it reaches its natural end as defined in the Piece Length parameter.

Range of Values

1 to 32,000 seconds (8 hours)

Typical value

60 seconds (1 minute)

This is important for those occasions where you want to release a piece (normally in SKP format) and only want the person who gets it to be able to 'sample' it in a try-before-buy approach. Once they have heard it and decide they like it, you can supply them the 'full' piece that has no foreshortening. This parameter means you do not have to adjust the Piece Length, which would affect how the whole piece sounds as the envelopes would then apply over a shorter time period.

See also

Piece Length

Piece Details

Location

Piece Details view

Description

Enter Piece, Author and Copyright information relating to the piece together with your description of the piece (Piece Notes). The Piece Notes can be anything you like, from text describing the mood to the patches you used. Basically anything you think someone else is likely to read. Think of them as CD sleeve notes.

Range of Values

The Piece, Author and Copyright text boxes will each accept up to 255 characters. If your details/notice do not all fit on the screen, simply click on the field with the left mouse button and drag it to the left.

The Piece Notes text box can accept text descriptions up to 32,000 characters, which equates to around 800 lines of text. Each line takes up 2 characters in addition to the text added, be it blank or not.

Typical value

ECO2
SSEYO Ltd

This piece is about etc.....

See also

Piece Details dialog

Piece Gap

Location

Piece view 1

Description

Minimum rest time between pieces, in seconds. This is where you set up how long you want the SKME to wait before it plays the next piece. This is particularly useful if you want to send someone a SSEYO Koan album that follows a certain sequence.

Range of Values

0 to 10

Typical value

0

Note It is generally best to have this small, or zero, so that pieces load up and play quickly.

See also

Piece Gap Range

Piece Gap Range

Location

Piece view 1

Description

Maximum rest time between pieces, in seconds relative to the minimum value.

Range of Values

0 to 20

Typical value

0

Note It is generally best to have this small, or zero, so that pieces load up and play quickly.

See also

Piece Gap Range

Piece Initialization MIDI Command V2.0

Location

Piece View 3

Description

This parameter is used to define arbitrary MIDI commands that are to be sent out when the piece starts to play.

Range of Values

Any command that can be defined using the MIDI Book interface.

Typical value

You could, for example, use this parameter to define a sequence of special System Exclusive MIDI commands to prepare your synth whenever the piece starts playing.

See also

MIDI Books

Piece Length

Location

Piece view 1

Description

Length of the piece in seconds. Most often you will create pieces that are around 5 to 10 minutes long, but we allow you to create pieces up to 8 hours long.

Range of Values

1 to 32,000 seconds (around 8 hours)

Typical value

300

General Notes

Envelopes are around 300 pixels wide and contain 100 data points - these data points are spread across the length of the piece. The values of envelope parameters are interpolated between the various data points, to enable smooth sounding changes. For very long pieces the changes that take place may seem to be very slow, i.e. say you start an 8 hour piece at zero volume (data point 1) and ramp it to maximum at data point 2 (this would take 288 seconds to ramp up) . Therefore, for these situations where you do not want slow changes we have added the Volume Step Change parameter. This allows you to switch off the interpolation and 'jump' between data points immediately. In the above case the volume would immediately change from 0 to maximum after 288 seconds.

See also

Piece Length Range
Volume Step Change

Piece Length Range

Location

Piece view 1

Description

Range expected in piece length above the minimum set by the Piece Length parameter.

Range of Values

1 to 32,000 seconds

Typical value

100

See also

Piece Length

Piece Random Scale

Location

Piece view 2

Description

If this parameter is set to Yes, it allows the piece to randomly select from and change to another scale from a list of scale rules (if present), according to the Piece Root Bars parameter (meaning it can change at the same time as the Piece Root). Note that in this case the Scale Rule must be defined at the Piece level (i.e. all Scale Rules at the voice level are defined as '?') AND there must be a list of Scale Rules defined. Combines with other Piece Root parameters.

Range of Values

Yes or No

Typical value

No

If you have say 3 scale rules defined at the piece level (Major/Minor/Pentatonic) then all voices with Scale rule set to ? could simultaneously choose one of the list of piece level Scale rules next time they are due to change, according to the Root Change Bars Between parameter.

See also

Piece Roots
Piece Root Bars
Piece Root Envelope
Scale Rule(s) Availability
Scale Rule(s)
Rules - Introduction

Piece Root Bars

Location

Piece view 2

Description

Number of bars before the Piece Root changes. The Piece Root is the pitch around which everything revolves. In musical terms it is called the root of a scale, e.g. in Do, Re, Me, Fa, So, La, Ti, Do the first Do is the root. There can be only one root for a piece, but every voice can have different Scale rules.

Range of Values

0 to 32,000

Typical value

10

If the Piece Root Bars parameter has a value of 10, the piece could start with a piece root of say A, and then after 10 bars it will change to another root, maybe G (depending on values for the other Piece Root parameters). Use of this parameter can make pieces more varied and interesting, as they don't stay in a single fixed key for the duration of the piece.

See also

Piece Root Bars Range
Piece Root Change
Piece Root Envelope
Piece Root Patterns
Piece Roots
Piece Semitone Shift Range
Piece Semitone Shift

Piece Root Bars Range

Location

Piece view 2

Description

Range expected in the number of bars above the minimum, as defined by the Piece Root Bars parameter value.

Range of Values

0 to 32,000

Typical value

5

See also

Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Root Patterns

Piece Roots
Piece Semitone Shift Range
Piece Semitone Shift

Piece Root Change

Location

Piece view 2

Description

Allows you to choose whether or not you want the Piece Root to change in a piece. If you select Yes, the Root can change during a piece, according to the values set in the Piece Semitone Shift parameter. You can also get the root to change through a Piece Root Pattern.

Range of Values

Yes or No

Typical value

Yes

See also

Piece Root Bars Range
Piece Root Bars
Piece Root Envelope
Piece Root Patterns
Piece Roots
Piece Semitone Shift Range
Piece Semitone Shift
Piece Random Scale

Piece Root Envelope Env

Location

Piece view 2

Description

Enables a specified envelope of scale roots to be followed through a piece. As the piece plays it would move through various pre-defined roots, allowing some structure to be adopted for the piece.

Range of Values

0 to 11 throughout the piece.

Typical value

0

General notes

If the value is 0, then the scale root chosen can be any value provided by the normal algorithm in Piece Semitone Shift. Any other value is referenced to the Scale Root defined when the piece commences playing. For instance, if the Scale Root is A, then 1 represents A, 2 is Bb, 3 is B etc. This parameter can be cross matched with the Scale Rule Availability parameter to effectively allow you to define the scale and the key throughout the piece.

See also

Piece Random Scale
Scale Rule(s) Availability
Piece Root Bars Range
Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Root Patterns
Piece Roots
Piece Semitone Shift Range
Piece Semitone Shift

Piece Roots

Location

Piece view 2

Description

The Scale Root around which the piece is played. Every time a piece plays it can choose one of the values in this 'string' as the root from which to start playing the piece. If you always want to have the piece start with the same Root, simply choose the root you want, as it is not necessary to have a 'string' of values. This parameter supports lists, just as other parameters. You can also get the piece root to change with a Piece Root Pattern.

Range of Values

Ab, A, A#, Bb, B, C, C#, Db, D, D#, Eb, E, F, F#, Gb, G, G#

Typical value

C

To select a root at random when the piece starts you can supply a string listing the roots from which to choose, e.g:

Ab C D

You can edit these values with the LHS mouse button. Just click in the parameter and enter the letters as normal text.

See also

Piece Random Scale
Piece Root Bars Range
Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Root Patterns
Piece Semitone Shift Range
Piece Semitone Shift

Piece Root Patterns V2.0

Location

Piece View 2

Description

Before reading this section, **please** first ensure that you are familiar with the Patterns parameter ! This is because Piece Root Patterns (which share the same basic syntax as "Melodic" Patterns) **must** be edited by hand, as there is currently no graphical tool within SSEYO Koan Pro for editing these parameters.

In a similar way to the way that note patterns can be specified for Fixed Pattern voices, it is possible to define patterns that define how the Piece Root and Scale Rule(s) may change within the piece, on a bar by bar basis. This effect may be used **additively** to the Piece Semitone Shift parameters, and is independent of the Piece Roots parameter.

Range of Values

Syntax

<[%][B] [DU] [RS][.SL] [DU] [RS][.SL] [DU] [RS][.SL]>

Where:

% **relative** probability of being chosen when there is more than one pattern group.

B Both pattern type

DU Note Duration

RS Root Shift indicates a SEMITONE SHIFT from the base level Piece Root. A value of 0, means use the currently defined Piece Root, as affected by the Piece Semitone Shift parameters, ignoring any piece root pattern. A value of 1 means use a Piece Root equal to the specified Piece Root parameter for 1 bar. A value of 2 means use a Piece Root equal to the Piece Root parameter, but offset up by 1 semitone, for 1 bar. etc.

SL Scale List indicates the Scale Rule to be used from its position in the list of the piece level Scale Rule parameter (more than 1 is available). A value of 0 (or none) means use the current Scale Rule. Any other value means use the scale rule whose position in the list equals this number (i.e. 4 means the 4th in the list).

The patterns defined currently MUST have the following characteristics :

1 They must be defined as type "B"oth.

2 They must have "note" lengths which are **PRECISELY EQUAL to ONE BAR** e.g. you must not use note values of less than one bar, meaning the root can only change on the bar boundary. (e.g. 240 for a 4:4 metre, or 120 for 6: meter) -

3 Negative values must not be used.

[DU] [RS][.SL]

Examples

e.g. 240 1	Use the Piece Root and the current piece level Scale Rule for one bar
e.g. 240 1.0	Use the Piece Root and the current piece level Scale Rule for one bar
e.g.: 240 1.2	Use the Piece Root, and the 2nd scale rule listed in the piece level Scale Rules
e.g. 240 3.2	Use the Piece Root + 2 semitones and the 2nd scale rule listed in the piece level Scale Rules

e.g. 240 2.3 Use the Piece Root offset +1 semitone, and use the 3rd scale rule listed in the piece level Scale Rules

e.g. <100 B 240 1 240 2 240 3 240 4>

This pattern will use the piece-level defined Scale Rule. The current piece root is used first for 1 bar, then the piece root + 1 semitone, then the piece root + 2 semitones, then a last bar using the piece root + 3 semitones. The pattern will then repeat from the beginning - at the end, we reset back to the original root !

e.g. <100 B 240 1.0 240 1.1 240 2.1 240 3.2 240 4.1>

The number after the "." indicates e.g. "Use the 1st scale rule" from the top of the list. 0 (the default) means to use the piece-level scale rule. If the scale positions change (say because you add some new scale rules) you will need to change this manually.

e.g. <100 B 240 1 240 2 240 3 240 4> <B 100 240 1.0 240 1.1 240 2.1 240 3.2 240 4.1>

Choose one of the piece root patterns at random (according to the weighted probabilities), and run through to the end of that sub-pattern. Then, choose one of the piece root patterns at random again, and run through to the end of that sub-pattern, ... and so on, until the end of the piece.

Typical value

<B 240 0>

See also

Scale Rule(s)
Piece Root Bars Range
Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Roots
Piece Semitone Shift Range
Piece Semitone Shift

Piece Semitone Shift

Location

Piece view 2

Description

Indicates the number of semitones to shift the Piece Root when it is due to change, according to the Piece Root Bars parameter value.

Range of Values

Only used if the Piece Root Change parameter is set to Yes.
Any value from -60 to 60.

Typical value

7

Note This is a fixed value, so each time the root changes it will go up or down by this value. If you set it to 7 for instance, you can have a 'cycle of fifths' where each scale Root is a major fifth above the last. To have an random next scale root, see Piece Semitone Shift Range.

See also

Piece Root Bars Range
Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Root Patterns
Piece Roots
Piece Semitone Shift Range

Piece Semitone Shift Range

Location

Piece view 2

Description

Range of semitones by which the Piece Root can change over and above the fixed, minimum value set with the Piece Semitone Shift parameter value. Use of this parameter depends on what you are trying to achieve, but allows for a random change of Piece Root to give more diversity to the piece.

Range of Values

0 to 12

Typical value

3

See also

Piece Root Bars Range
Piece Root Bars
Piece Root Change
Piece Root Envelope
Piece Root Patterns
Piece Roots
Piece Semitone Shift

Pitch

Location

View 1

Description

When any note is played this is the minimum pitch it will have (unless it is a drum sound, where the pitch corresponds to a drum type, e.g. bass drum or hi hat).

Range of Values

Depends on range best suited to sound card (refer to manual), but always within the range 0 to 127

Typical value

35 (60 is middle C)

Pitch Bend Offset

Location

View 10

Description

Purpose is to tune / de-tune an instrument before applying the micro pitch changes (which will be based around this as a base line).

Range of Values

8192 to +8191 (-1000 ths of a tone)

Note sets the pitch wheel controller

Typical value

Default : 0

See also

Micro controllers overview

Pitch Bend Sensitivity

Location

View 10

Description

This determines the pitch bend to be achieved with full application of the pitch bend controller (the Micro Pitch Change/ Micro Pitch Range controllers) for this MIDI channel. The value of the parameter is the maximum number of semitones (i.e. from 0 to 24 semitones, default is 2 semitones) that the Micro Pitch Range parameters can bend the pitch.

Range of Values

0 to 24

Typical value

Default : 2 (0 is OFF)

See also

Micro Pitch Change
Micro Pitch Range
Micro controllers overview

Pitch Range

Location

View 1

Description

Range of expected pitches available above the minimum value, set with the Pitch parameter. If you set this to a very high values you might find it difficult to hear the voice for some patches.

Range of Values

11 - 127

Typical value

24

The reason the minimum value is 11 is because each Scale or Harmony rule operates on the Root plus 11 notes, this representing 1 octave.

See also

Pitch

Portamento (65)

Location

View 9

Description

Applies a fixed amount of portamento to your instrument, meaning the instrument will smoothly 'slide' from some starting note value to the note it should actually play (should you soundcard support it).

Range of Values

0 to 127 (-1 is off)

Typical value

63 is the mid value which means there is no portamento applied. 127 means the note will slide up to reach the target note, 0 means it will slide down to reach the target note. The larger the value of portamento the further away from the target note is the starting note. This parameter should be used sparingly.

Note There is no Portamento available on the AWE32/AWE64/SB32/SB64, but there is on the XG/SCC1

Recordable? V2.0

Location

View 8

Description

If you want a voice to be recordable to either WAV or MIDI file without warning, from either SSEYO Koan X or SSEYO Koan Pro, be sure to set this parameter to Yes. Note that for MIDI file recording, the engine will stop note on / off information being sent for voices where **Recordable?** is not set to Yes; but WAV recording is not affected.

Range of Values

Yes or No

Typical value

Yes

See also

Record Dialog
Piece Details dialog
How To Create Templates For Koan X
Copyright

Redistribute in SKD/SKT ? V2.0

Location

View 8

Description

If you wish to allow other people to distribute your voice, within other SKD or SKT files, then set this parameter to Yes; otherwise, set this parameter to No.

Range of Values

Yes or No

Typical value

No

See also

How To Create Templates For Koan X
Copyright
Recordable?
Save to SKP ?

Release

Note Only relevant for Yamaha XG/Roland SCC1 soundcard owners.

Location

View 15

Description

Sets the release level for a voice's patch, determining how the note plays when a metaphorical 'key' which has been 'pressed down' is then released. A slow release will mean the sound will die away over a long time. Generally the patches you get on your sound card will be optimized to sound their best, but fast or slow releases can create interesting effects.

Range of Values

50 to 50. 0 is the default setting for normal release.

Typical value

0

See also

Other Yamaha XG parameters

Repeat Bar History

Location

View 4

Description

Defines how many bars back in the history of a piece the SKME can look to find bars of a voice's music to repeat with Repeat Bars % and Repeat For Bars. If set to 0 and the Repeat Bar Percent and Repeat For Bars parameters have values such that SKME looks to repeat a bar(s), it can repeat any bar(s) out of the last 100.

Range of Values

1 - 100

Typical value

2

See also

Repeat Bar Parameters
Mutation Factor
Mutate No. Bars

Repeat Bar History Range

Location

View 4

Description

Defines the range of values that can be used by the SKME and the Repeat Bars Percent parameter for repeating previously bars of music played by a voice. This value is added to that of the Repeat Bar History parameter.

Range of Values

0 - 100

Typical value

2

See also

Repeat Bar Parameters
Mutation Factor
Mutate No. Bars

Repeat Bars Percent

Location

View 4

Description

Determines to what extent the bars selected in Repeat Specific Voice will be repeated. If set to 0 they will never repeat; if set to 50% then they will repeat half the time; if set to 100% they will always repeat. This only applies to RepeatBar Voice Types.

Range of Values

A percentage from 0 to 100

Typical value

80

General Notes

With the RepeatBar Voice Type and Repeat Bars Percent you can create a voice that will repeat music it has played in the past. This is useful if, for example, you wish to have a repeating theme within a piece. The theme that is repeated, consists of entire bar(s) from the past music played by that voice, from within the current piece.

The two controlling voice-level parameters are :

Repeat Bar History Selection of numbers in range 0 to 100

Repeat Bars Percent Selection of numbers in range 0 to 100

Repeat Bar History is the maximum number of bars in the past that a piece will look, for a bar to repeat for a repeating voice. If this value is set to 0, then when a piece decides to repeat a bar's music, it may repeat ANY bar that it has played so far this piece.

For a voice that repeats the same bar of music for the duration of a piece, use the following :

Repeat Bars Percent 100

For a voice that repeats 50 percent of its bars of music, and when it does repeat a bar, it repeats only the LAST bar played, use :

Repeat Bars Percent 50

Repeat Bar History 1

Note A RepeatBar Voice Type will be 'composed' from the very beginning of the piece to harmonize with the voices playing from the beginning. This is most noticeable if you set the Repeat Bars Percent to 100%. For example, if you set the Volume and Velocity of this Voice to zero for say the first half of the piece, when the volume comes up the Voice will be playing what was actually composed when the piece first started (as it repeats 100%), and NOT from when the volume or velocity is non-zero. The fact that the RepeatBar Voice Type composes from the beginning of the piece means that the piece will follows the constraints of this voice (and the patterns composed) from the very start of the piece, even though you cannot hear it (i.e. the volume and velocity may be very low).

See also

Repeat Bar Parameters
Mutation Factor
Mutate No. Bars

Repeat For Bars

Location

View 4

Description

Defines the number of bars that will be repeated when the voice type has been set to a RepeatBar. Is used in conjunction with the other Repeat Bar parameters, such as Repeat Bar History.

Range of Values

1 - 100

Typical value

2

See also

Repeat Bar Parameters

Repeat For Bars Range

Location

View 4

Description

Defines the range on how many bars will be chosen to repeat with the Repeat For Bars parameter. This value is added to that of the Repeat For Bars parameter.

Range of Values

0 - 100

Typical value

2

See also

Repeat Bar Parameters

Repeat Specific Voice

Location

View 4

Description

This is where you define which voice (by its Voice Name) you want the RepeatBar Voice Type to repeat. You can repeat any voice in the piece, even including a Follows or FixedPattern

voice. Select the voice you want to repeat from the drop-down combo box. Most often you will set a voice to repeat itself.

Note If you have this value set to '?' then the voice will repeat itself. If you want it to repeat another voice you must explicitly define the voice you want it to repeat. You can, of course, create a list of voices from which it can choose to repeat one when the piece starts.

Range of Values

? (meaning repeat itself), or any voice (via its Voice Name) available in the piece.

Typical value

Default Voice

See also

Repeat Bar Parameters

Reverb (91)

Location

View 9

Description

Sets the reverb level for any patches played by a voice. This is the value used for the reverb throughout the piece for that particular voice.

Range of Values

0 to 127 (0 is no reverb and 127 is maximum reverb).

Typical value

0

Rhythm Rule(s)

Location

View 8

Description

For the voice that uses it, the Rhythm rule determines the likelihood of a new note's duration. You can select which rule is used for a voice from the list of already pre-defined Rhythm rules (which you can add to/modify in the Rhythm rule Window by selecting the Rhythm rule button on the top toolbar or selecting Groups Rhythm Rules from the menu). The SKME calls on the probabilities defined in this rule when it comes to determining what will be the duration of the next note to be played by the voice. Each voice can have its own distinct Rhythm rule.

Note If the value is set to '?' it will use the first Rhythm rule defined in your piece (you can see these in the Rhythm rule window).

Range of Values

Can be set to any Rhythm rules you may have created or a '?'

Typical value

Default Rhythm Rule

See also

Rules
Rhythm Rule

Rhythm Rule(s) Value

Location

Rhythm Rule view

Description

Displays the Rhythm Rule window, where you can see the probability bars for each Rhythm rule defined/ available. The probability bars determine the likelihood of a note playing being of a certain duration(i.e. quarter note (crotchet) / eighth (quaver) note etc.)

Range of Values

Each bar can be from zero to maximum height, where the higher it is the more likely it is to play.

Typical value

Mid range

See also

Rules
Rhythm Rule

Scale Rule

Location

Piece view 1

Description

Determines which Scale rule the piece uses as a default (in the event of no Scale rules being defined at the voice level), and is selected from the list of already defined Scale rules. It is also used to create a list of Scale rules (refer to lists) from which the piece can randomly choose a Scale rule with the **Piece Random Scale** parameter.

Range of Values

If no Scale rules are specified at the voice level (by setting that parameter to '?' in View 8), the piece will use the rule defined here for that voice. Each voice can override this Scale rule with its own Scale rule.

Typical value

Major

See also

Rules
Scale Rule

Scale Rule(s) - View 6
Piece Random Scale

Scale Rule(s) Availability Env

Location

View 2 in Scale Rule view

Description

Allows you to define the availability of any scale rule throughout the piece. It is found under the Scale Rule parameter display. It is a property of each Scale Rule defined in the piece.

Range of Values

If not defined for each Scale rule used by a piece, the default is an envelope with 100% availability throughout the piece.

Typical value

Envelope with a range of values.

General Notes

This is a powerful feature that allows you to have a predetermined/ random set of shifting Scale rules in a piece, thus building more expression into it (for this to be operative though, you will need to set the Piece Random Scale and Piece Root Bars parameters). For instance, you may have 3 Scale rules defined in your piece; Major, Minor and Minor 7 for example. You can define the availability of each rule so that e.g. the Major rule was 100% available between 25% and 50% of the way through the piece and not available outside these times (accomplished by setting its availability to 0% outside these times). Likewise the Minor at 100% available between 50% and 75% of the way through the piece. If the Minor 7 rule was available at a level of 30% throughout the piece, then when the scale rule changes the SKME will choose between all the available Scale rules according to their relative probability. Thus if 60% through the piece it was time to change the scale the chances would be 1 (100%) to .3 (30%) that it would choose the Minor 7 scale.

See also

Rules
Scale Rule
Piece Random Scale

Scale Rule(s) Value

Location

Scale Rule view

Description

Displays in the probability grid the probability bars for the notes in the scale.

Range of Values

Each bar can be 0 to 10, where the higher the number means the more likely it is to play.

Typical value

Mid range

See also

Rules
Scale Rule

Scale Rules(s)

Location

View 8

Description

Determines which Scale rule each Voice uses as a default, and is selected from the list of already defined rules.

Range of Values

If no rule specified it will use the Piece Default Scale Rule, or if specified, each Voice can override this with its own Scale rule.

Typical value

Minor

If your Koan piece is to use a Scale Rule at the piece level you must define the Scale rule for each voice as a '?'. To do this simply select the Scale Rule parameter from View 6 and use the RHS mouse to click on the parameter value. This will call up the 'Edit Scale Rule Parameters' dialog, which is where you edit lists, if present. Make sure you delete every Scale rule and then press Close. You will now be left with a '?' for the Scale rule, meaning it is defined at the piece level.

See also

Rules
Scale Rule
Scale Rule(s) - Piece A view

Save to SKP ? V2.0

Location

View 8

Description

If you wish to be able to save a voice to an SKP file, then you must set this parameter to Yes. Otherwise, set this parameter to No. The reason for this parameter is so that you could ship Koan X templates for peoples own personal use, but not for them to be able to incorporate into SKP files, say for use on the Internet.

Range of Values

Yes or No

Typical value

Yes

See also

Piece Details dialog
How To Create Templates For Koan X
Copyright
Recordable?
Redistribute in SKD/SKT ?

Soft (67)

Location

View 9

Description

Defines the softness of the notes played by any instrument in a given voice throughout the piece (provided your soundcard supports this controller).

Range of Values

1, 0 to 127 (-1 is off, 0 is no softness, 127 is maximum softness)

Typical value

35

Makes the instrument sound like it is played softly, meaning it is great for use in ambient pieces.

Sostenuto (66)

Location

View 9

Description

Defines the sostenuto applied to the notes played by any instrument in a given voice throughout the piece (provided your soundcard supports this controller).

Range of Values

1, 0 to 127 (-1 is off, 0 is no sostenuto, 127 is maximum sostenuto)

Typical value

35

This is effectively the same as sustain, and affects how ‘smoothly’ the notes are played.

Tempo

Location

Piece view 1

Description

The selectable minimum tempo at which your piece will play.

Range of Values

1 to 199 (beats per minute - bpm)

Typical value

60

See also

Tempo Change?
Tempo Envelope Range
Tempo Envelope
Tempo Range

Tempo Change

Location

Piece view 1

Description

Determines whether you will allow the piece tempo to change or not.

Range of Values

Yes or No

Typical value

Yes.

If you allow the tempo to change, changes are governed by the Tempo Envelope parameter. Any changes to this parameter only take effect when a piece is started.

See also

Tempo Envelope Range
Tempo Envelope
Tempo Range
Tempo

Tempo Envelope Env

Location

Piece view 1

Description

The envelope of the desired tempo throughout the piece.

Range of Values

Determined by parameters Tempo Minimum and Tempo Range

Typical value

Anything from 0 to 127

However, the minimum and maximum values of this envelope are set by the Tempo Minimum and Tempo Minimum Range parameters. If these are set to be very close to each other the envelope will have a high degree of resolution and will offer very fine control over the piece's tempo. This envelope can be dragged while the piece is playing to allow manual changes to be made (provide the Tempo Change parameter has been set to yes).

See also

Tempo Change?
Tempo Envelope Range
Tempo Range
Tempo
Envelope Tools

Tempo Envelope Range

Location

Piece view 1

Description

Determines the spread of tempos over which the tempo envelope operates.

Range of Values

0 to 127

Typical value

20

Once you have set the minimum tempo with Tempo Minimum, the Envelope Range determines the resolution of the envelope. If the range was 25, then you could vary the tempo by up to 25 bpm throughout the piece; if it was 75 you could vary it by 75bpm.

See also

Tempo Change?
Tempo Envelope
Tempo Range
Tempo

Tempo Range

Location

Piece view 1

Description

Range of tempos allowed for the piece above the minimum

Range of Values

1 to 199 (beats per minute - bpm)

Typical value

20

A tempo will be chosen for the piece when it plays, and this will be somewhere in between the minimum and the minimum plus the range. I.e., if the minimum was 35 and the range 40 the piece could start playing at anything from 35 to 70 bpm.

See also

Tempo Change?

Tempo Envelope Range
Tempo Envelope
Tempo

Title

Description

Name of the piece

Range of Values

Text entry, best kept to less than 25 characters

Typical value

Finding Mellow Spells

User Controller 1 Beat Cycle Length V2.0

Location

View 11

Description

If set to anything other than 0, then this overrides the Update / Update range parameters. It instead forces value for User Controller 1 to change within the available value limits, but within the specified number of 60ths of a beat. E.g. to change a sawtooth from Min-Max (0-127) every beat, then set this value to 60. To change from 0-127 every bar of 4:4, then set this value to 240.

Tip : This is particularly useful for DANCE music, where you might want (say) a filter sweep or pan effect to change in time with the rhythm ... e.g. from full value to minimum every 4 bars, and back again.

Example values

0 (default)	Use millisecond timing instead.
1	1 60th of a beat
15	1 16th note (semiquaver)
20	1 triplet
30	1 eighth note (quaver)
60	1 quarter note (crotchet)
120	1 bar of 6:8
240	1 bar of 4:4
480	4 bars of 4:4

etc.

Range of Values

0 to 32000

Typical value

0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 Change V2.0

Location

View 11

Description

Defines how much the User Controller 1 value can change, between change points. It is best thought of as a 'walk'. The controller value cannot walk by more than this value each time the controller value is changed. The maximum limits on the change are set by the User Controller 1 Change Range parameter.

Tip : If this value is left at 0, then the microcontroller will never change; set it to a different value, such as 1 or higher to allow changes to occur.

Range of Values

0 - 127

Typical value

0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 Change Range V2.0

Location

View 11

Description

Defines the range of values over which the value of User Controller 1 can change. Is used in conjunction with the User Controller 1 Change parameter. For example, if User Controller 1 Change is 10, and User Controller 1 Change Range is 5, the each time the User Controller 1 value changes, it will change by a value between 10 and 15 (10 + 5).

Tip : Use this parameter to add variety to your effects sweeps.

Range of Values

0 to 127

Typical value

0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 MIDI Command V2.0

Location

View 11

Description

This parameter is used to define arbitrary MIDI commands that are to be sent out under control of User Controller 1.

Range of Values

Any command that can be defined using the MIDI Book interface, which is loaded when you press the button ().

Typical value

You could, for example, use this parameter to define a soundcard-specific MIDI Filter controller, the value of which would be changed continuously in real-time as the value of the User Controller changes; giving you fantastic sweep effects !

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11
How To Use and Edit MIDI Books
Initialization MIDI Command

User Controller 1 Minimum V2.0

Location

View 11

Description

Defines the minimum value that will be generated by the User Controller 1. The actual value generated will always be between this value, and this value plus the value of the User Controller 1 Range parameter.

Tip : If this value is left at -1 (off), then the microcontroller will have no effect; set the value to at least 0, to turn the microcontroller on.

Range of Values

1 (off), 0 to 127

Typical value

1 (off)

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 Mode V2.0

Location

View 11

Description

This parameter controls the basic shape of the waveform that is created by the microcontroller.

Tip : If this parameter is left as -1 - Off, then you will not be able to hear any microcontroller effect.

Range of Values

0 Random drift (drifts randomly between the Minimum and Minimum + Range)
1 LFO (Min-Max-Min)
2 LFO(Max-Min-Max)
3 Sawtooth (Min-Max)
4 Sawtooth (Max-Min)

Typical value

1 - Off

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 Range V2.0

Location

View 11

Description

Defines the range of values that will be generated by User Controller 1. The actual value generated will be between the value of the User Controller 1 Minimum parameter, and that value plus the value of the User Controller 1 Range parameter.

Tip : If this value is set to 0, then the value of user microcontroller 1 will never change; try setting this parameter to a value of 127, for maximum variation.

Range of Values

0 to 127

Typical value

127

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 Update V2.0

Location

View 11

Description

Determines how often changes will be made to the User Controller 1 value. If it is set to 10 then every 10 ms the microcontroller value will change according to the other User Controller 1 parameter settings.

Tip : For fast sweep effects, try setting this value to 100 or less (100 milliseconds = 1 tenth of a second).

Range of Values

0 to +10000 ms

Typical value

1 (every millisecond)

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 1 Update Range V2.0

Location

View 11

Description

Used in conjunction with the User Controller 1 Update parameter and provides the range of times over which the microcontroller changes can occur.

Range of Values

0 to +10000 ms

Typical value

Default : 0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Beat Cycle Length V2.0

Location

View 11

Description

If set to anything other than 0, then this overrides the Update / Update range parameters. It instead forces value for User Controller 2 to change within the available value limits, but within the specified number of 60ths of a beat. E.g. to change a sawtooth from Min-Max (0-127) every beat, then set this value to 60. To change from 0-127 every bar of 4:4, then set this value to 240.

Tip : This is particularly useful for DANCE music, where you might want (say) a filter sweep or pan effect to change in time with the rhythm ... e.g. from full value to minimum every 4 bars, and back again.

Example values :

0 (default) Use millisecond timing instead.

1 1 60th of a beat
15 1 16th note (semiquaver)
20 1 triplet
30 1 eighth note (quaver)
60 1 quarter note (crotchet)
120 1 bar of 6:8
240 1 bar of 4:4
480 4 bars of 4:4
etc.

Range of Values

0 to 32000

Typical value

0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Change V2.0

Location

View 11

Description

Defines how much the User Controller 2 value can change, between change points. It is best thought of as a 'walk'. The controller value cannot walk by more than this value each time the controller value is changed. The maximum limits on the change are set by the User Controller 2 Change Range parameter.

Tip : If this value is left at 0, then the microcontroller will never change; set it to a different value, such as 1 to allow changes to occur.

Range of Values

0 - 127

Typical value

0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Change Range V2.0

Location

View 11

Description

Defines the range of values over which the value of User Controller 2 can change. Is used in conjunction with the User Controller 2 Change parameter. For example, if User Controller 2 Change is 10, and User Controller 2 Change Range is 5, the each time the User Controller 2 value changes, it will change by a value between 10 and 15 (10 + 5).

Tip : Use this parameter to add variety to your effects sweeps.

Range of Values

0 to 127

Typical value

0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 MIDI Command V2.0

Location

View 11

Description

This parameter is used to define arbitrary MIDI commands that are to be sent out under control of User Controller 2.

Range of Values

Any command that can be defined using the MIDI Book interface.

Typical value

You could, for example, use this parameter to define a soundcard-specific MIDI Filter controller, the value of which would be changed continuously in real-time as the value of the User Controller changes; giving you fantastic sweep effects !

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11
How To Use and Edit MIDI Books
Initialization MIDI Command

User Controller 2 Minimum V2.0

Location

View 11

Description

Defines the minimum value that will be generated by the User Controller 2. The actual value generated will always be between this value, and this value plus the value of the User Controller 2 Range parameter.

Tip : If this value is left at -1 (off), then the microcontroller will have no effect; set the value to at least 0, to turn the microcontroller on.

Range of Values

1 (off), 0 to 127

Typical value

1 (off)

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Mode V2.0

Location

View 11

Description

This parameter controls the basic shape of the waveform that is created by the microcontroller.

Tip : If this parameter is left as *-1 -Off*, then you will not be able to hear any microcontroller effect.

Range of Values

0 - Random drift (drifts randomly between the Minimum and Minimum + Range)
1 - LFO (Min-Max-Min)
2 - LFO(Max-Min-Max)
3 - Sawtooth (Min-Max)
4 - Sawtooth (Max-Min)

Typical value

- 1 - Off

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Range V2.0

Location

View 11

Description

Defines the range of values that will be generated by User Controller 2. The actual value generated will be between the value of the User Controller 2 Minimum parameter, and that value plus the value of the User Controller 2 Range parameter.

Tip : If this value is set to 0, then the value of User Controller 2 will never change; try setting this parameter to a value of 127, for maximum variation.

Range of Values

0 to 127

Typical value

127

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Update V2.0

Location

View 11

Description

Determines how often changes will be made to the User Controller 2 value. If it is set to 10 then every 10 ms the microcontroller value will change according to the other User Controller 2 parameter settings.

Tip : for fast sweep effects, try setting this value to 100 or less (100 milliseconds = 1 tenth of a second).

Range of Values

0 to +10000 ms

Typical value

1 (every millisecond)

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

User Controller 2 Update Range V2.0

Location

View 11

Description

Used in conjunction with the User Controller 2 Update parameter and provides the range of times over which the microcontroller changes can occur.

Range of Values

0 to +10000 ms

Typical value

Default : 0

See also

Micro Controllers Overview
Micro Controllers View 10
User Micro Controllers View 11

Velocity Env

Location

Envelope View

Description

Minimum velocity envelope of a voice throughout the piece.

Range of Values

Velocity envelopes are only accessed as a new note is played. For CONTINUOUS control over the absolute volume of a voice through the duration of a piece, use the Volume parameter.

0 to 100 (in the form of an envelope throughout the pieces life). A default envelope is supplied with constant value of 64.

Use the default envelope or edit it to make your own.

Typical value

64 (default)

See also

Velocity Range
Velocity Change
Velocity Change Range
Envelope Tools

Velocity Change Env

Location

Envelope View

Description

The velocity change envelope defines how much the velocity of a voice's new note may differ from the velocity of that voice's previous note.

Range of Values

This variation of a voice's note velocities over time, gives the piece some additional dynamism, and gives the impression of the voice "interpreting" the notes that it plays.

0 to 100 (in the form of an envelope throughout the pieces life). A default envelope is supplied with constant value of 5.

A voice's velocity will never be set outside of the limits determined by the Velocity and Velocity Range parameters.

Typical value

Default Envelope

See also

Velocity Change Range
Velocity Range
Velocity
Envelope Tools

Velocity Change Range Env

Location

Envelope View

Description

Range of velocity above the Velocity Change Envelope.

Range of Values

0 to 100 (in the form of an envelope throughout the life of the piece). A default envelope is supplied with constant value of 5.

Typical value

Default Envelope

See also

Velocity Change
Velocity Range
Velocity
Envelope Tools

Velocity Range Env

Location

Envelope View

Description

The 'Range' of velocities that can be expected to occur above and beyond the Velocity envelope.

Range of Values

0 to 100 (in the form of an envelope throughout the pieces life). A default envelope is supplied with constant value of 10.

Typical value

Default Envelope

See also

Velocity
Velocity Change
Velocity Change Range
Envelope Tools

Vibrato Delay V2.0

Note **Only relevant for Yamaha XG / Roland SCC1 soundcard owners**

Location

View 15

Description

This parameter controls the Vibrato Delay MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards.

Range of Values

1(off), 0 to 127 (where 0 is minimum Vibrato and 127 is maximum Vibrato)

Typical value

1 (off)

See also

Other Yamaha XG parameters

Vibrato Depth V2.0

Note **Only relevant for Yamaha XG / Roland SCC1 soundcard owners**

Location

View 15

Description

This parameter controls the Vibrato Depth MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards.

Range of Values

1(off), 0 to 127 (where 0 is minimum Vibrato Depth and 127 is maximum Vibrato Depth)

Typical value

1 (off)

See also

Other Yamaha XG parameters

Vibrato Rate V2.0

Note **Only relevant for Yamaha XG / Roland SCC1 soundcard owners**

Location

View 15

Description

This parameter controls the Vibrato Rate MIDI controller for Yamaha DB50 XG, Roland SCC1 and compatible soundcards.

Range of Values

1(off), 0 to 127 (where 0 is minimum Vibrato Rate and 127 is maximum Vibrato Rate)

Typical value

1 (off)

See also

Other Yamaha XG parameters

Voice (Piece View 2)

Location

Piece View 2

Description

Simply a list of Voice used in the piece. This parameter is mainly for support purposes and we recommend you do not use it.

Range of Values

List of all the voices used in the piece.

Typical value

Piano 1

Note Do not edit this parameter. It is here for the purposes of technical support

Voice Group V2.0

Location

View 8

Description

If you wish to hide one or more voices when constructing a template file for SSEYO Koan X, then "wrap" the voices you wish to hide by defining them within "wrapper voices" : which are voices that have the **Voice Group** parameter set to either "0 - Begin" or "1- End". SSEYO Koan X supports the use of these voices, to "hide" the contents of any multi-voice templates (e.g. from a drum-kit template, which will have lots of drum voices in it). You can set the "Voice Group" parameter yourself, and add Begin / End "wrapper" voices yourself ... PROVIDED that you MATCH Begin and End voices together - with the Begin voice always occurring BEFORE the End voice in the file. If you do not follow this rule, then you might cause SSEYO Koan X to crash when it opens your file !

Range of Values

1 - Normal, 0 - Begin, 1 - End

Typical value

1 - Normal

See also

Swapping Files Between Koan X and Koan Pro
How To Create Templates For SSEYO Koan X
Creating Protected SKT files

Voice Image V2.0

Location

View 8

Description

This parameter is used by SSEYO Koan X; more details are to be found in the section on How To Create Templates For Koan X.

Set the Image parameter to be something like :

file = "drum1.bmp"

where drum1.bmp must be a 16- or 256- color bitmap file in the Koan X images directory (e.g. c:\koanx\images). Note that when you drop the template into a piece with Koan X, Koan X will override and set the Voice-level "Image" parameter to be the same as was defined at the piece level.

Range of Values

Must be in the correct format. Note that ? means undefined.

Typical value

? (not defined)

See also

How To Create Templates For SSEYO Koan X
Creating Protected SKT files

Voice Name

Location

See Common parameters

Description

This is the name you wish to give to the voice. Type in some text (e.g. PIANO 1) and press enter.

Range of Values

Any text you want.

Typical value

Piano 1

Voice Type

Location

Each of the 15 views in the Power View and in Voice X view. See Common parameters.

Description

Rhythmic, Ambient, Follows, RepeatBar, FixedPattern or Listening.

Range of Values

Entirely depends on what templates you are using on which to base your piece.

Typical value

Rhythmic

See also

Forcing a voice to play
Scratch mixing

Volume Env

Location

Envelope View

Description

Volume envelope of a voice throughout the piece.

Range of Values

Use the default supplied or edit it to make your own.

Typical value

Default envelope.

Tip: If you use the Edit Default Parameter menu option for Volume envelope, this will be create a volume envelope which is ramped at both the beginning and end of the envelope.

See also

Envelopes
Envelope Tools
Edit Default Parameter

Volume Step Change

Location

View 1

Description

The volume envelope normally works by allowing smooth changes in volume throughout the life of a piece. However, there may be times when you want to have a change in volume happen immediately, rather than 'interpolating' between two points on the volume envelope (most noticeable for very long pieces, where volumes change slowly and voices do not come in quickly). In this case, set this parameter to be YES, and changes from one point to another in the volume envelope will happen immediately.

Tip: This is very useful for dance music, in that it can be used to cleanly bring in drums in a long piece.

Range of Values

Yes or No

Typical value

No

Wave File

Location

View 2

Description

Allows playback of a WAV file in the Koan piece, at a fixed frequency. Any number of voices can be assigned to play WAV files. If you have Direct Sound 5 (or later) support installed and setup and you are using 32-bit software, then many WAV files can play simultaneously: otherwise, only one WAV file can play at once.

Range of Values

Type in the name of the WAV file and its path. This parameter supports lists.

Typical value

WAVFILE1.WAV
or
C:\FRED\WAVFILE1.WAV

V2.1 Tip : This has now been superceded by the PATCH parameter. This parameter still works, but is made available primarily for backward-compatibility. If you have any existing Koan pieces which use this parameter, then you are recommended to transfer your WAV parameter usage across to the corresponding voice's Patch parameter, as we are likely to remove access to the old-style Wave File parameter in a future release of Koan Pro.

The path to the WAV file can be specified; if not, the SKME will look for it in the same directory as the piece. The SKME will also look in any path specified in the Koan File Supplementary Search Path parameter.

WAV files are triggered by instructions (notes) sent out by the SKME. The actual notes sent out are governed by the voice type (e.g. Ambient, Rhythmic, Fixed Pattern, Repeat Bar or Listening) and other parameters such as Phrase Length and Phrase Gaps etc. Once started, a WAV file will continue playing until it reaches its natural end, the piece stops or it is interrupted by a voice *playing the same WAV file*. This could be the same or another voice..

If you play a note that lasts for 10 seconds (this can be achieved with the Ambient and FixedPattern voicetypes) and your WAV file is 5 seconds long it will play for 5 seconds and then start playing again in another 5 seconds (when the next note is played). However, if your WAV file is longer than the note played, Koan will start playing the WAV file again as soon as the new note is triggered. For instance, you have a WAV file of 5 seconds length but your note length is only 2 seconds, this means you will only ever hear the first 2 seconds of the WAV file and it will be 'clipped' short. You can either use sequenced patterns, or another way around this is to have long rests between each phrase and make the phrase length 0 so that no notes accidentally clip it.

Parameter	Value
Wave file	WAVFILE1.WAV
Phrase Length	1
Phrase Length Range	0
Rests Between Phrases	15
Rest Between Phrase Range	5

Note 1 All Voicetypes except Ambient and FixedPattern have a maximum note length of 240 (1 measure - a whole note/semibreve).

Note 2 A voice can only start playing a WAV file if there is no other WAV file being played at the time - this is a Windows limitation. This means one voice can be playing a WAV file but it will not be interrupted by *another* voice trying to play a different WAV file.

Note 3 You can edit the WAV file string directly by selecting the WAV cell with the CTRL + left mouse button, or selecting the cell and pressing CTRL + ENTER. This brings up the text string behind the dialog for you to edit.

See also

Ambient Duration
Phrase Gaps
Phrase Gaps Range
Phrase Length
Phrase Length Range
Forcing a voice to play
Pattern Editor
Patterns

XG Drum EG Attack Rate V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

This parameter controls the XG Drum EG Attack Rate MIDI controller for Yamaha DB50 XG and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. "D53"); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum XG Drum EG Attack Rate and 127 is maximum XG Drum EG Attack Rate)

Typical value

1 (off)

See also

Other Yamaha XG parameters

XG Drum EG Decay Rate V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

This parameter controls the XG Drum EG Decay Rate MIDI controller for Yamaha DB50 XG and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Filter XG Drum EG Decay Rate and 127 is maximum XG Drum EG Decay Rate)

Typical value

1 (off)

See also

Other Yamaha XG parameters

XG Drum Filter Cutoff Frequency V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

This parameter controls the XG Drum Filter Cutoff Frequency MIDI controller for Yamaha DB50 XG and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum XG Drum Filter Cutoff Frequency and 127 is maximum XG Drum Filter Cutoff Frequency)

Typical value

1 (off)

See also

Other Yamaha XG parameters

XG Drum Filter Resonance V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

This parameter controls the XG Drum Filter Resonance MIDI controller for Yamaha DB50 XG and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Filter XG Drum Filter Resonance and 127 is maximum XG Drum Filter Resonance)

Typical value

1 (off)

See also

Other Yamaha XG parameters

XG Drum Instrument Pan V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

This parameter controls the XG Drum Instrument Pan MIDI controller for Yamaha DB50 XG and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum Filter XG Drum Instrument Pan and 127 is maximum XG Drum Instrument Pan)

Typical value

1 (off)

See also

Other Yamaha XG parameters

XG Drum Instrument Pitch Fine V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

This parameter controls the XG Drum Instrument Pitch Fine MIDI controller for Yamaha DB50 XG and compatible soundcards. It only affects voices where the patch is a drum / percussive patch (e.g. “D53”); and affects only that specific drum patch.

Range of Values

1(off), 0 to 127 (where 0 is minimum XG Drum Instrument Pitch Fine and 127 is maximum XG Drum Instrument Pitch Fine)

Typical value

1 (off)

See also

Drum Instrument Pitch Coarse
Other Yamaha XG parameters

XG Variation Level V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

View 15

Description

Use this parameter when you have selected a command from the appropriate MIDI Book, that defines an XG Variation for a given MIDI line; you can use this parameter to control the effect Level of that XG Variation !

Tip Yamaha XG System On must be set to Yes for this parameter to have any effect.

Range of Values

1(off), 0 to 127 (where 0 is minimum XG Variation Level and 127 is maximum XG Variation Level)

Typical value

1 (off)

See also

Yamaha XG System On
Other Yamaha XG parameters
MIDI Books

Yamaha XG System On V2.0

Note **Only relevant for Yamaha XG or compatible soundcard owners**

Location

Piece View 3

Description

This parameter is used to define whether or not your piece can access the special Yamaha XG patch banks, if you have a Yamaha XG MIDI sound system.

If you have an XG compatible soundcard, then the default TG-300 patch bank set will be used by default. If you however want to use the XG patch banks, you must set this parameter to Yes.

Then, if you have an XG compatible soundcard, this will cause XG patch banks to be used, instead of the default TG-300 patch bank set.

For example, use D29.2 for a Snare Drum Roll.

Range of Values

Yes or No.

Typical value

Yes

General Notes

This parameter is NOT real-time changeable - the piece must be re-started for it to take effect, if you change this value.

When this parameter is set to "Yes", the drum set/kit that is used is one of the non-SFX kits (as defined in the XG documentation). For example, drum D28.25 will select drum sound 28 from drum kit 25 (the electro kit actually referred to as program/patch #25 in the DB50-XG documentation), which will give you a "Reverse Cymbal" sound.

[Note that if you look at the DB-50XG manual's XG Drum Voice list page, you will see that the reverse cymbal sound, it is actually referred to as being in bank 127, program/patch 25 and note number 28. When Yamaha XG System On is selected, Koan Pro cause the internal XG drum bank of 127 to selected; setting the "Bank" in the voice Instrument parameter then actually causes the specified "program/patch" to be selected which corresponds to the "bank" number you supply (25 in our example). The drum instrument number you supply (28 in our example) will then be selected and played from that kit.]

The internal effect of this parameter is twofold:

1. When the piece starts it sends out a SYSEX command to your soundcard which tells it to enter XG mode if it supports XG.
2. Because Yamaha XG mode requires it, we do various things, the most important of which is to swap the order in which the patch and bank select MIDI messages are sent to the synthesizer in reverse order.

Note Because we have to swop the patch and bank byte ordering in XG mode, this means that with Yamaha XG System On set to Yes your voices will not be able to refer to SoundFont patch/banks even though your synth device might be set to be AWE32/AWE64/SB32/SB64!

See also

XG Variation Level
Other Yamaha XG parameters

Parameter Utilization Guide - Quick Reference

All the parameters in SSEYO Koan Pro and how or whether they have any direct effect on the SKME's **note composition** for voices with the following voicetypes: Rhythm (Rhy), Ambient (Amb), Follows (Foll), Repeat Bar (R Bar), Fixed Pattern (F Pat) or Listen. Also gives the parameter ranges.

See tables on following pages.

Parameter Utilization Guide - Quick Reference ** = refer to Parameter

View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
All	Voice number	Custom	ANY	Any	N	N	N	N	N	N	N	N
All	Voice Name	Custom	Any text name	Any	N	N	N	N	N	N	N	N
All	Patch	MIDIControl	1-127, D001-D127	Any	N	N	N	N	N	N	N	N
All	MIDIChannel	Custom	0, 1-16	Any	N	N	N	N	N	N	N	Not 0
All	Voice Type	Custom	Shown above	Any	N	N	N	N	N	N	N	N
All	Mute	Custom	or M		N	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
1	Phrase Gaps Range	Notes	0-32,000	8	N	N	Y	Y	N	M	M	N
1	Phrase Gaps	Notes	0-32,000	3	N	N	Y	Y	N	M	M	N
1	Phrase Length Range	Notes	1-32,000	6	N	N	Y	Y	N	M	M	N
1	Phrase Length	Notes	0-32,000	2	N	N	Y	Y	N	M	M	N
1	Pitch Range	Semitones	11-127	24	N	N	Y	Y	**	M	M	Y
1	Pitch	Semitones	0-127	35	N	N	Y	Y	**	M	M	Y
1	Volume Step Change	Custom	Yes/No	No	N	N	Y	Y	Y	Y	Y	N
1	Phrase Note Rest %	%	0-100%	10%	N	N	Y	Y	Y	Y	Y	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
2	Ambient Duration	Amb Units	0-32,000	5000	N	N	N	Y	N	N	N	N
2	Ambient Duration Range	Amb Units	0-32,000	10000	N	N	N	Y	N	N	N	N
2	Ambient Gap	Amb Units	0-32,000	3000	N	N	N	Y	N	N	N	N
2	Ambient Gap Range	Amb Units	0-32,000	10000	N	N	N	Y	N	N	N	N
2	Ambient Units	Custom	sec/ms/60th beat	ms	N	N	N	Y	N	N	N	N
2	Patch Change Bars	Bars	0-100	10	N	N	Y	Y	Y	Y	Y	Y
2	Patch Change Bars Range	Bars	0-100	5	N	N	Y	Y	Y	Y	Y	Y
2	Wave file	Custom	Any WAV file	None	N	N	Y	Y	Y	Y	Y	Y
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
3	Follow Delay	Foll Del Unit	0-32,000	10	N	N	N	N	Y	N	N	N
3	Follow Delay Range	Foll Del Unit	0-32,000	10	N	N	N	N	Y	N	N	N
3	Follow Delay Unit	Custom	sec/ms/60th beat	ms	N	N	N	N	Y	N	N	N
3	Follow Named Voice	Custom	Any defined voice	?	N	N	N	N	Y	N	N	N
3	Follow Percent	%	0-100%	40%	N	N	N	N	Y	N	N	N
3	Follow Shift/Interval	Semitones	-120	40	N	N	N	N	Y	N	N	N
3	Follow Shift/Interval Range	Semitones	-120	40	N	N	N	N	Y	N	N	N
3	Follow Strategy	Custom	Chord/Semi/Interval	Chordal	N	N	N	N	Y	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
4	Repeat Bar History	Bars	1-100	2	N	N	N	N	N	Y	N	N
4	Repeat Bar History Range	Bars	1-100	2	N	N	N	N	N	Y	N	N
4	Repeat For Bars	Bars	1-100	2	N	N	N	N	N	Y	N	N
4	Repeat For Bars Range	Bars	1-100	2	N	N	N	N	N	Y	N	N
4	Repeat Specific Voice	Custom	Any defined voice	?	N	N	N	N	N	Y	N	N
4	Repeat Bars %	%	0-100%	80%	N	N	N	N	N	Y	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
5	Meter	Time signature	All	04-Apr	N	N	Y	N	Y	Y	Y	N
5	Mutate No. Bars	Bars	0-100	3	N	N	N	N	N	Y	Y	N
5	Mutate No. Bars Range	Bars	0-100	3	N	N	N	N	N	Y	Y	N
5	Mutation Factor	0.10%	0-1000	150	N	N	N	N	N	Y	Y	N
5	Mutation of Rhythm	Custom	Yes/No	Yes	N	N	N	N	N	Y	Y	N
5	Patterns	Custom	Any Pattern	None	N	N	N	N	N	N	Y	N
5	Pattern Bars %	%	0-100%	100%	N	N	N	N	N	N	Y	N

Parameter Utilization Guide - Quick Reference ** = refer to Parameter

View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
6	Listen Adjust Invalid Notes	Custom	Yes/No	No	No	N	N	N	N	N	N	Y
6	Listen To Pitch Minimum	MIDIControl	-1, 0-127	40	-1	N	N	N	N	N	N	Y
6	Listen To Pitch Range	MIDIControl	-1, 0-127	0	-1	N	N	N	N	N	N	Y
6	Listen Use Koan Velocities ?	Custom	Yes/No	No	N	N	N	N	N	N	N	Y
6	Listen To Pitch of Patch Only ?	Custom	Yes/No	No	N	N	N	N	N	N	N	Y
6	Listen To Pitch Patch Override	MIDIControl	-1, 0-127	40	-1	N	N	N	N	N	N	Y
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
7	Chord Delay	Custom	0-32,000	Yes	N	N	Y	Y	Y	Y	Y	Y
7	Chord Delay Range	Custom	0-32,000	16,000	N	N	Y	Y	Y	Y	Y	Y
7	Chord Delay Unit	Custom	MilliSec/ 60th/ Q 60th	60th	N	N	Y	Y	Y	Y	Y	Y
7	Chord Depth	Notes	Jan-32	4	N	N	Y	Y	Y	Y	Y	Y
7	Chord Depth Percent	Percent	0-100	100	N	N	Y	Y	Y	Y	Y	Y
7	Chord Depth Range	Notes	0-32	0	N	N	Y	Y	Y	Y	Y	Y
7	Chord Pitch Offset	Semitones	-60, 0, +60	3	N	N	Y	Y	Y	Y	Y	Y
7	Chord Shift/Interval	Intervals	-60, 0, +60	4	N	N	Y	Y	Y	Y	Y	Y
7	Chord Shift/Interval Range	Intervals	-60, 0, +60	0	N	N	Y	Y	Y	Y	Y	Y
7	Chord Strategy	Custom	Chord/ Int /Freq Shift	Chord	N	N	Y	Y	Y	Y	Y	Y
7	Chord Velocity Factor	Percent	-100, 0, +100	0	N	N	Y	Y	Y	Y	Y	Y
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
8	Breakbeat ?	Custom	Yes/No	No	N	N	N	N	N	N	N	N
8	Copyright	Text	32,000 chars	© You	Y	N	N	N	N	N	N	N
8	Harmonize?	Custom	Yes/No	Yes	N	N	Y	Y	Y	Y	Y	Y
8	Harmony Duration	Milliseconds	0-32,000	16,000	N	N	Y	Y	Y	Y	Y	Y
8	Harmony Rules	Custom	Any Harmony rule	?	PIECE	N	Y	Y	Y	Y	M	**
8	MIDIChannel Reallocation	Custom	Yes/No	No	N	N	Y	Y	Y	Y	Y	N
8	MIDIChannel Sharing	Custom	Yes/No	No	N	N	Y	Y	Y	Y	Y	N
8	Mute Lock ?	Custom	Yes/No	No	N	N	Y	Y	Y	Y	Y	Y
8	Next Note Rules	Custom	Any Next Note rule	?	PIECE	N	Y	Y	Y	Y	M	N
8	Notes	Text	32,000 chars	Info	N	N	N	N	N	N	N	N
8	Recordable?	Custom	Yes/No	Yes	N	N	N	N	N	N	N	N
8	Redistribute in SKD/SKT ?	Custom	Yes/No	No	N	N	N	N	N	N	N	N
8	Rhythms Rules	Custom	Any Rhythm rule	?	PIECE	N	Y	Y	Y	Y	M	N
8	Save to SKP ?	Custom	Yes/No	Yes	N	N	N	N	N	N	N	N
8	Scale Rules	Custom	Any Scale rule	?	PIECE	N	Y	Y	Y	Y	Y	Y
8	Voice Group	Custom	-1, 0, 1	-1	N	N	N	N	N	N	N	N
8	Voice Image	Custom	file="*.bmp	?	Y	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
9	Brightness (74)	MIDIControl	-1, 0-127	35	-1	N	N	N	N	N	N	N
9	Chorus (93)	MIDIControl	0-127	0	N	N	N	N	N	N	N	N
9	Damper Release	Custom	Yes/No	Yes	N	N	N	N	N	N	N	N
9	Damper/Hold (64)	MIDIControl	-1, 0-127	35	-1	N	N	N	N	N	N	N
9	Expression (11)	MIDIControl	-1, 0-127	127	-1	N	N	N	N	N	N	N
9	Harmonic Content (71)	MIDIControl	-1, 0-127	-1	-1	N	N	N	N	N	N	N
9	Initialization MIDI Command	Custom	MIDIBOOK		N	N	N	N	N	N	N	N
9	Modulation (1)	MIDIControl	-1, 0-127	0	-1	N	N	N	N	N	N	N
9	Portamento (65)	MIDIControl	-1, 0-127	63	-1	N	N	N	N	N	N	N
9	Reverb (91)	MIDIControl	0-127	0	N	N	N	N	N	N	N	N
9	Soft (67)	MIDIControl	-1, 0-127	35	-1	N	N	N	N	N	N	N
9	Sostenuto (66)	MIDIControl	-1, 0-127	35	-1	N	N	N	N	N	N	N
9	Koan ADSR Attack Time	MIDIControl	0-127	0	0	N	N	N	N	N	N	N
9	Koan ADSR Hold Time	MIDIControl	0-127	0	0	N	N	N	N	N	N	N
9	Koan ADSR Decay Time	MIDIControl	0-127	0	0	N	N	N	N	N	N	N
9	Koan ADSR Sustain Level	MIDIControl	0-127	0	0	N	N	N	N	N	N	N
9	Koan ADSR Release Time	MIDIControl	0-127	0	0	N	N	N	N	N	N	N

Parameter Utilization Guide - Quick Reference ** = refer to Parameter

View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
10	Micro Note Delay Change	Milliseconds	0-1000	5	N	N	N	N	N	N	N	N/A
10	Micro Note Delay Offset	Milliseconds	-1000 to +1000	-20	N	N	N	N	N	N	N	N/A
10	Micro Note Delay Range	Milliseconds	0-1000	40	N	N	N	N	N	N	N	N/A
10	Micro Pitch Change	* Scaled	0-8191	10	N	N	N	N	N	N	N	N
10	Micro Pitch Range	* Scaled	0-8191	5	N	N	N	N	N	N	N	N
10	Micro Pitch Update	Milliseconds	0-1000	50	N	N	N	N	N	N	N	N
10	Micro Pitch Update Range	Milliseconds	0-1000	0	N	N	N	N	N	N	N	N
10	Pitch Bend Offset	Cents	-8192 to +8191	0	N	N	N	N	N	N	N	N
10	Pitch Bend Sensitivity	Semitones	0-24	2	N	N	N	N	N	N	N	N
10	Micro Modulation Pulse	Milliseconds	0-10,000	1000	N	N	N	N	N	N	N	N
10	Micro Modulation Pulse Range	Milliseconds	0-10,000	0	N	N	N	N	N	N	N	N
10	Micro Modulation Range	MIDI Control	0-127	20	N	N	N	N	N	N	N	N
10	Micro Modulation Update	Milliseconds	0-10,000	3000	N	N	N	N	N	N	N	N
10	Micro Modulation Update Range	Milliseconds	0-10,000	1000	N	N	N	N	N	N	N	N
10	Micro Volume Change	MIDI Control	0-127	1	N	N	N	N	N	N	N	N
10	Micro Volume Range	MIDI Control	0-127	3	N	N	N	N	N	N	N	N
10	Micro Volume Update	Milliseconds	0-10,000	100	N	N	N	N	N	N	N	N
10	Micro Volume Update Range	Milliseconds	0-10,000	0	N	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
11	User Controller 1 Beat Cycle Length	1/60th beat	0-32,000	240	N	N	N	N	N	N	N	N
11	User Controller 1 Change	MIDI Control	0-127	0	N	N	N	N	N	N	N	N
11	User Controller 1 Change Range	MIDI Control	0-127	0	N	N	N	N	N	N	N	N
11	User Controller 1 MIDI Command	Custom	MIDIBOOK		N	N	N	N	N	N	N	N
11	User Controller 1 Minimum	MIDI Control	-1, 0-127	1000	-1	N	N	N	N	N	N	N
11	User Controller 1 Mode	Custom	-1, 0,1,2,3,4	1	-1	N	N	N	N	N	N	N
11	User Controller 1 Range	MIDI Control	0-127	3	N	N	N	N	N	N	N	N
11	User Controller 1 Update	Milliseconds	0-1,000	1	N	N	N	N	N	N	N	N
11	User Controller 1 Update Range	Milliseconds	0-1,000	0	N	N	N	N	N	N	N	N
11	User Controller 2 Beat Cycle Length	1/60th beat	0-32,000	240	N	N	N	N	N	N	N	N
11	User Controller 2 Change	MIDI Control	0-127	0	N	N	N	N	N	N	N	N
11	User Controller 2 Change Range	MIDI Control	0-127	0	N	N	N	N	N	N	N	N
11	User Controller 2 MIDI Command	Custom	MIDIBOOK		N	N	N	N	N	N	N	N
11	User Controller 2 Minimum	MIDI Control	-1, 0-127	1000	-1	N	N	N	N	N	N	N
11	User Controller 2 Mode	Custom	-1, 0,1,2,3,4	1	-1	N	N	N	N	N	N	N
11	User Controller 2 Range	MIDI Control	0-127	3	N	N	N	N	N	N	N	N
11	User Controller 2 Update	Milliseconds	0-1,000	1	N	N	N	N	N	N	N	N
11	User Controller 2 Update Range	Milliseconds	0-1,000	0	N	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
12	AWE LFO 1 Start Delay	4 milliseconds	-1, 0-5900	-1	-1	N	N	N	N	N	N	N
12	AWE LFO 1 Filter Cutoff	56.25 cents	-1, 0-128	-1	-1	N	N	N	N	N	N	N
12	AWE LFO 1 Frequency	0.084Hz	-1, 0-127	-1	-1	N	N	N	N	N	N	N
12	AWE LFO 1 Pitch Shift	9.375 cents	-128, -127 to +127	-128	-128	N	N	N	N	N	N	N
12	AWE LFO 1 Volume Shift	0.1875 dB	-1, 0-127	-1	-1	N	N	N	N	N	N	N
12	AWE LFO 2 Frequency	0.084Hz	-1, 0-127	-1	-1	N	N	N	N	N	N	N
12	AWE LFO 2 Pitch Shift	9.375 cents	-128, -127 to +127	-128	-128	N	N	N	N	N	N	N
12	AWE LFO 2 Start Delay	4 milliseconds	-1, 0-5900	-1	-1	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
13	AWE Envelope 1 Attack	Milliseconds	-1, 0-5940	-1	-1	N	N	N	N	N	N	N
13	AWE Envelope 1 Decay	4 milliseconds	-1, 0-5940	-1	-1	N	N	N	N	N	N	N
13	AWE Envelope 1 Delay	4 milliseconds	-1, 0-5900	-1	-1	N	N	N	N	N	N	N
13	AWE Envelope 1 Filter Cutoff	56.25 cents	-128, -127 to +127	-128	-128	N	N	N	N	N	N	N
13	AWE Envelope 1 Hold	Milliseconds	-1, 0-8191	-1	-1	N	N	N	N	N	N	N
13	AWE Envelope 1 Pitch Shift	9.375 cents	-128, -127 to +127	-128	-128	N	N	N	N	N	N	N
13	AWE Envelope 1 Release	4 milliseconds	-1, 0-5940	-1	-1	N	N	N	N	N	N	N
13	AWE Envelope 1 Sustain	0.75dB	-1, 0-127	-1	-1	N	N	N	N	N	N	N

Parameter Utilization Guide - Quick Reference ** = refer to Parameter

View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
14	AWE Envelope 2 Attack	Milliseconds	-1, 0-5940	-1	-1	N	N	N	N	N	N	N
14	AWE Envelope 2 Decay	4 milliseconds	-1, 0-5940	-1	-1	N	N	N	N	N	N	N
14	AWE Envelope 2 Delay	4 milliseconds	-1, 0-5900	-1	-1	N	N	N	N	N	N	N
14	AWE Envelope 2 Hold	Milliseconds	-1, 0-8191	-1	-1	N	N	N	N	N	N	N
14	AWE Envelope 2 Release	4 milliseconds	-1, 0-5940	-1	-1	N	N	N	N	N	N	N
14	AWE Envelope 2 Sustain	0.75dB	-1, 0-127	-1	-1	N	N	N	N	N	N	N
14	AWE Pitch Filter Cutoff	62Hz	-1, 0-127	-1	-1	N	N	N	N	N	N	N
14	AWE Pitch Initial	Cents	-8193, -8192 to 8191	0	-8193	N	N	N	N	N	N	N
14	AWE Pitch Resonance	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
15	Attack	Custom	-50 to + 50	0	N	N	N	N	N	N	N	N
15	Decay	Custom	-50 to + 50	0	N	N	N	N	N	N	N	N
15	Release	Custom	-50 to + 50	0	N	N	N	N	N	N	N	N
15	Drum Instrument Chorus	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Drum Instrument Level	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Drum Instrument Pitch Coarse	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Drum Instrument Reverb	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Filter Cutoff Frequency	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Filter Resonance	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Vibrato Delay	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Vibrato Depth	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	Vibrato Rate	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Drum EG Attack Rate	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Drum EG Decay Rate	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Drum Filter Cutoff Frequency	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Drum Filter Resonance	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Drum Instrument Pan	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Drum Instrument Pitch Fine	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
15	XG Variation Level	MIDI Control	-1, 0-127	-1	-1	N	N	N	N	N	N	N
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
Env	Availability	MIDI Control	0-127	127	N	Y	Y	Y	Y	Y	Y	Y
Env	Pan (10)	MIDI Control	0-127	64	N	Y	N	N	N	N	N	N
Env	Velocity	MIDI Control	0-127	64	N	Y	If 0	If 0	If 0	If 0	Y	Y
Env	Velocity Change	MIDI Control	0-127	5	N	Y	N	N	N	N	N	N
Env	Velocity Change Range	MIDI Control	0-127	5	N	Y	N	N	N	N	N	N
Env	Velocity Range	MIDI Control	0-127	10	N	Y	N	N	N	N	N	N
Env	Volume	MIDI Control	0-127	127	N	Y	If 0	If 0	If 0	If 0	N	N

Parameter Utilization Guide - Quick Reference ** = refer to Parameter

View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
Piece 1	M eter	Time signature	All	04-Apr	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Piece Length	Seconds	1-32,000	300	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Piece Length Range	Seconds	1-32,000	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Tempo Change?	Custom	Yes/No	No	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Tempo	Beat per min	1-199	60	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Tempo Range	Beat per min	0-199	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Tempo Envelope	M IDI Control	As per Tempo Env Rgne	0	N	Y	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Tempo Envelope Range	Beat per min	0-127	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Scale Rule(s)	Custom	Any in list	Default	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Harmony Rules	Custom	Any in list	Default	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Next Note Rules	Custom	Any in list	Default	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Drum Set	M IDI Control	0-127	1	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Piece Gap	Seconds	0-10	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Piece Gap Range	Seconds	0-20	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 1	Harmonization Type	Custom	0,1	1	N	N	N/A	N/A	N/A	N/A	N/A	N/A
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
Piece 2	Piece Roots	Custom	Any note	C	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Voice	Custom	Voices used in piece	Voice 1	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Root Change	Custom	Yes/No	No	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Root Bars	Bars	0-32,000	10	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Root Bars Range	Bars	0-32,000	4	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Semitone Shift	Semitones	-60 to +60	7	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Semitone Shift Range	Semitones	0-12	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Root Patterns	Custom	Custom	Custom	N	N	Y	Y	Y	Y	Y	Y
Piece 2	Piece Root Envelope	Semitones	0-13	0	N	Y	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Random Scale	Custom	Yes/No	No	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 2	Piece Demo Time	M illiseconds	0-32,000	0	0	N	N/A	N/A	N/A	N/A	N/A	N/A
View	Parameter	Units	Range	Typ Value	Off	Env	Rhy	Amb	Foll	R Bar	F Pat	Listen
Piece 3	AWE SoundFont Bank &SBK Name	Custom	Single/multiple SBKs	Any SBK	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	AWE Effect Type	Custom	Def/Rev-Chorus/Q	Default	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	AWE Reverb Variation	Custom	8 types	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	AWE Chorus Variation	Custom	8 types	0	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	Gravis Melodic Patch Bank	M IDI Control	1-128 can be used	Any	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	Gravis Drum Patch Bank	M IDI Control	1-128 can be used	Any	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	Yamaha XG System On	Custom	Yes/No	No	N	N	N/A	N/A	N/A	N/A	N/A	N/A
Piece 3	Piece Initialization MIDI Command	Custom	M IDIBOOK	Custom	N	N	N/A	N/A	N/A	N/A	N/A	N/A

Chapter 14 - Authoring Hints and Tips

General Guidelines

Creating a good SSEYO Koan piece is actually quite easy; creating a masterpiece requires more skill and perseverance. When you start with a piece, try and bear the following in mind:

Palettes. Your sound palette (instrument patches or samples) will greatly affect how a piece sounds. Your creativity will limited by the sound quality or capabilities of your soundcard or synthesizer. Ambient music is quite contextual, meaning that it often uses sounds from your audio environment, so use as many samples as you can.

Ambience. The SKME is primarily geared for creating ambient, free-flowing pieces although you can produce very techno like material using fixed patterns. Producing good rhythmic pieces is harder to do but can be very rewarding. Start with ambient pieces.

Experiment. A lot of the fun to be had with SSEYO Koan Pro is found through experimentation. SSEYO Koan Pro is a very 'deep' product, meaning there is often a number of ways to skin the proverbial cat - so don't give up if at first you don't succeed!. Play around with the parameters to see what happens, and make sure to save various stages of your pieces.

Look at other pieces. One of the best ways of learning how to use it is to look at what others have done - do take time to try out the tutorials. You may find tricks in them that you did not know you could do or parameters that you may not have used before. Also, experiment with the templates.

Let go. Try to let go and allow SSEYO Koan to do a lot of the compositional work. It may seem strange at first to let go of some of the musical 'control' which you might be used to, but it brings its own rewards in terms of the variety and richness of the output. To do this well requires its own type of discipline! It is quite easy to set up pieces that only use the fixed patterns and a roll the dice approach, and although this is creative you may not get something really original with **real** elements of surprise.

Lists. Make use of lists and the Patch Change Bars parameter. Lists will allow you to create pieces that are different every time and they are a key strength of the SKME.

Arrangement. Try to get all your voices and patches fully set up before you go for any major volume/velocity envelope arrangements. It is best to get the general structure there before you go in for the real details!

Hot Tips

There are many things you can do with SSEYO Koan Pro and often many ways you can do it. Here are just a few of the Hot Tips we think you might find useful. They all assume you are reasonably familiar with SSEYO Koan Pro. See also Authoring Guidelines and Common Questions

I want to create dance music !

Why not use the Pattern Editor to create some great drum kits and bass riffs, or see Quick Example 1 for randomizing drum kits, , drop on some Ambient Voices and complete the mix with some Filter Sweeps using the built-in. User Controllers !

How do I use SSEYO Koan Pro to create a hyper-instrument?

Take a look at the Listening Voice voice type and How To Build Your First Hyper-Instrument. The primary purpose of this, is to allow you to use SSEYO Koan Pro as a hyper-instrument!

How do I use SSEYO Koan Pro to add sound or music effects to my MIDI files?

Easy! Check out the Listening Voice voice type and see the examples given at the end of the section. Or, import your MIDI file to the Pattern Editor and apply the power of Koan to the pattern. Either way, SSEYO Koan Pro 2 is hugely powerful effects processor, too….

How do I share my files with SSEYO Koan X ?

There is full compatibility with SSEYO Koan X ; SKD and SKT files are fully inter-changeable !

How do I record WAV and MIDI file recording of my pieces ?

Take a look at the Record Dialog, which lets you make both WAV and MIDI file recordings of your compositions !

How do I create patterns and riffs or drum kits ?

Read all about the Pattern Editor.

How do I make chords and arpeggios ?

Any voice type can easily play chords, generative arpeggios and the like, using the Auto Chording parameters.

How do I create a random piece, or randomize or mutate existing parameters ?

You can use SSEYO Koan Pro to create entire random pieces, voices and / or rules ! Individual parameters, parameter groups and entire voices can also be mutated and randomized. Have a look at the section on Randomization and Mutation

I have a Yamaha DB50 XG or compatible : what can I do with it ?

SSEYO Koan Pro has full Yamaha DB50 XG and Extended SCC1 Support !. See how to use the full range of XG patches !

How do I get filter sweeps and other neat real-time effects ?

SSEYO Koan Pro 2 lets you use custom MIDI commands and User Controllers, for expandable filter sweep and other effects, including customizable MIDI books for expandable soundcard feature support. See all about our User Microcontrollers

I have a Creative Labs AWE32/SB32/AWE64/SB64 soundcard - what can I do with it ?

The simple answer is - **LOTS** ! Take a look at our easy-to-use built-in support for AWE SoundFonts and AWE Controllers

Don't forget too that SoundFont Loading can be defined at the Voice level !

One of my voices has some weird effects happening and I just cannot fathom out why?

First, make sure you have the right output device selected in the Options Setup Dialogs! Try copying the problem voice to a new empty piece and then play it to see if this then cures the problem (if so, your problem is to with piece level parameter settings). If this doesn't work, then try setting each of parameters to their default values (an easy way to do this is to go to each of the Voice X views and select Default Group/Row from the Edit menu). Or, just to spot where the differences are, create a new default voice beneath and compare the values.

I want to include WAV files in my pieces, and I want to have them trigger randomly and independently.

Simple! If you use a WAV file with DirectSound 5, you can set the patch to use this WAV file. See the Edit Instrument Control and the Patch parameter.

I want to have 3 or 4 instruments play in a piece for one voice, changing at random during the piece.

For the voice create a list of patches. Then set the Patch Change Bars parameter to say 5 bars and the Patch Change Bars Range to say 5 as well. This means that every 5 to 10 bars the voice will change its patch to another in the list you have defined.

I want to create subtle changes of expression and swells of velocity for a voice.

This is achieved through the Velocity group of envelopes. Set up the whole Velocity envelope to say 50% using the Mid value envelope tool. Then use the Shift Up tool to raise the envelope value to say around 80%. Select the whole Velocity Range envelope in a similar manner and apply the Randomize tool. Now, move the entire envelope value down with the Shift Down tool so that you cut off some of the envelope at a value of 0. Now set the Velocity Change envelope to say 5% and the Velocity Change Range to be 15% (increase the row height to do this, if you want). This has the effect of having gradual swells in the velocities sent to the instrument over the course of the piece.

I would like to set up a pattern so that it defines when the notes are going to play, but not what the notes will be.

In the Pattern Editor, press the Rhythm/Both button so that it displays Rhythm. In this case any notes you enter will be saved in your SSEYO Koan piece as Rhythm only values. This means when the SKME plays the piece it will know when to compose a note but it will choose the actual pitch of the note according to the Scale and Harmony rules you have defined. This comes in very useful if you want to tie the composition to a drum track. Duplicate a drum voice whose feel you want to follow and for the new voice select Rhythm as above. When the piece plays your notes will be in synch with the drum track (provided, of course, you do not mutate the rhythms of either of the patterns).

I want to create a piece where some voices do not play every time

Set up a list for the Mute cell (every parameter can have a list) for each voice. In the list put in both Mute and Non-Mute values. When your piece plays some voices will be muted, some won't, all determined at random. The Alternative to this is to use the Volume or Velocity envelopes and carry out the same type of procedure (completely zero value envelopes and 'normal' envelopes).

How can I get a real live feel to a recording of a piece or do so scratch mixing?

You can jump around where you are in a piece using the ALT+0 to 9 keys. This has the same effect as clicking the mouse in the moving piece marker. This just tell the SKME where you are in the piece, e.g. ALT+7 would be 70% the way through the piece. When you are recording (or playing live) this can be really useful, if you set up sections of the piece in advance.

Another way to get this live feel is to use the Force Voice capability of the Control menu (also CTRL+SPACEBAR to start, ALT+SPACEBAR to stop). This will force the selected voice to play right then. This could be a WAV file or breakbeat for instance, or maybe a long slow Ambient voice.

A further suggestion is to plug in a music keyboard (through your soundcard MIDI in). When you play the SKME will compose its music to fit around what you are playing (refer to Chapter 1 - Fixed Volume Input device).

How do I scratch mix WAV files?

What you need to do is create a voice that never plays but that you can trigger when you want, using the Force Voice capability (see previous tip). The best way to do this is to set up a voice to be Voice Type FixedPattern, and give it a blank pattern with no mutation. It will never play, but you can force it to play a note/WAV file if using a WAV file with DirectSound 5.

How do I use the Piece level parameters to change the voices' Rules values?

You will want to do this if, for instance, you want to let the SKME make choices as to which scale the piece should use for all voices. SSEYO Koan Pro allows you to let each voice have its own rules (View 6), if you want it to be so, and the voice can choose which rules it uses each time the piece is played from its own lists (refer to lists). If a number of voices in your piece are using lists of rules (Scale, Harmony etc.) it is possible that sometimes the rules will not work well together (e.g. one voice chooses a Major Scale rule while another chooses a Minor Scale rule). The alternative is to set the rules values for each voice to "?" which means that the rules used will be chosen from those defined for the piece, and not the voice. So, if you have set the piece Scale rule to be pentatonic and the Scale rule for every voice (in View 6) to be "?" the voices will all use the pentatonic scale. Now it gets interesting! You can set up a list of e.g. Scale rules at the piece level, just like you can have lists everywhere else. If all the voices' Scale rules are set to "?", as above, each time the piece plays the SKME will choose its piece level scale rule from this list, thus determining the Scale rule for every voice. When the piece plays, the piece level parameters are selected from any lists present and these values will be then be used by the piece for its entire duration (except Piece Root Change).

Thinning out the piece

You may often want to have less happening in a piece but want to keep its general structure. Two parameters are useful for thinning it out. Check out the Phrase Note Rest % (for use with any voice that is composing, e.g. a mutating pattern counts here) and Follow Use % parameter (for use with Follows Voice Types).

Creating voices with a lot of 'flamming'

Flamming is a word used by some people to mean imprecision and an event that has multiple starts (a little like Chorus). Create some more voices as Follows Voice Types and set up some delays between the master voice and the following voices. Also try using the Micro Note Delay range of controllers. If you have an AWE32/AWE64/SB32/SB64 you can try using the EMU8000 envelope controllers - specifically the Envelope Delay parameters. These controllers are also very useful for thickening up sounds. Try creating a number of following voices and adjusting the LFOs to produce and number of slightly changing voices. When they all combine together you can get a lovely rich, full sound. Use this in conjunction with the following voices, mentioned earlier.

Drums and harmonization

It is best when using drums in a piece to set the Harmonize? parameter to No, to cut down the work the SKME has to do. This is also the case when using SoundFont files (.SBK and .SF2 files) and you have a drum sample in the melodic bank (see Creative Labs' Vienna documentation) - this will avoid the sample trying to harmonize with other voices.

I want to create the smallest versions possible of my pieces for WWW use

Try the following tips for saving the smallest files from Koan Pro :

1. Add/use no more voices / rules / scales etc. than you need.
2. Rename all voices / rules etc. to be as short as possible - use a different character for each one.
3. Base the file on the MINIMUM template (called MINIMUM.SKT) and change only the parameters you need.
4. Leave out unnecessary piece note information.
5. Use the DEFAULT voices / rules / parameter values etc. To find out what a default value is, just add a new voice (do not copy one). Check the values in your piece against these values. Any value that is different will mean extra size is added to the file.
6. Try to keep envelopes flat (i.e. to a single value); using many changes of levels in an envelope will greatly add to the size of a piece.

Can I add ADSR to instruments where my soundcard does not support it?

The SSEYO Koan Music Engine allows *any* voice to use ADSR (Attack/Decay/Sustain/Release) envelopes, which are modeled by real-time manipulation of the volume controllers for each affected instrument. This effect will work in exactly the same way, on all soundcards that support continuous volume controller changes (i.e. **not** OPL2/OPL3 based cards).

The Koan ADSR envelopes work seamlessly in conjunction with the existing high-level voice volume envelopes and volume microcontrollers.

The Koan ADSR controllers may be used in combination with any ADSR envelope controllers that are present on your soundcard or external synthesizer. Any soundcard-specific ADSR controller values (if any) are superimposed on the Koan envelopes.

Note The Koan ADSR effects are not designed for use by voices which share MIDI channels - especially drums (all share MIDI channel 10). This is because all voices on the same MIDI channel must share the same controller information. See the Koan ADSR Parameters in Chapter 8. See Setup Options.

The MIDI Mapper

Note that the MIDI Mapper is merely a “half-way house”, between the Koan Pro software and your soundcard; use of the MIDI Mapper actually slows the throughput of MIDI data. If you are using a very slow computer, you might like to consider using the appropriate soundcard driver directly.

Chapter 15 - Common Questions

See also Hot Tips

Below are some common questions asked about SSEYO Koan Pro. Please scan these before you call technical support as you may find your question answered here. To see the answer to the question, click ANSWER.

Q: Why do I get no sound (or only a few sounds) coming out of my soundcard?

A: Firstly check that the Mixer application (if any) used by your soundcard has its sliders for MIDI and Volume turned up and the channels are not muted. Make sure your MIDI Mapper is set up correctly. Look in the on-line help or refer to your soundcard instruction manual. Some soundcards come with default configurations that only use the first 10 MIDI channels (e.g. AWE32/AWE64/SB32/SB64), and Koan pieces often use more. Win 3.1: You should make sure that all 16 channels are 'active'.

Another common problem can be you are using the wrong MIDI output:

Win 3.1: If you have the 'Port Name' in the MIDI Mapper 'Setups' to be an 'out', i.e. SB16 Out. This has the effect of sending the MIDI information to the MIDI output port, rather than to the synthesizer chip on the soundcard, which is used to generate the sound. Access this through the Control Panel, MIDI Mapper, Setups and select Edit. Click on the 'Port name' combo box and select the appropriate driver (e.g. Voyetra Super Sapi FM driver). Refer to your soundcard documentation for more information.

Win 95: Make sure the MIDI output for you your Multimedia Properties for MIDI does not point to MIDI for external MIDI port

Koan: Make sure in Setup options your MIDI Output Device is not a MIDI Out (where the MIDI information never gets sent to your soundcard synthesizer but gets sent to the MIDI output port instead), e.g. SB16 MIDI Out.

Q: Why do I get different quality sounds on different cards?

A: Although General MIDI is positioned as being a savior for the music industry, as it defines a standard mapping for 128 different sounds, each soundcard has different qualities of sound for each 'patch' (various pre-defined sounds your soundcard plays). This means that the instruments that the pieces use will sound better/worse depending on the soundcard on which you play the piece, or on which card the piece was originally authored (no author can check that their piece sounds good on every soundcard - which is where General MIDI provides only *some* help, in practice). If you really do not like the particular patch on your card that corresponds to one used in a piece you can either use the MIDI Mapper to reassign say patch 39 to play as patch 40 (for .SKP pieces) or change the patch in the piece.

Also, some soundcards support reverb or chorus which is very useful for ambient pieces. SSEYO Koan pieces can also be written to take advantage of other useful controls, such as portamento or modulation for instance, but not all cards support these parameters. The volume of each patch will also vary from soundcard to soundcard.

Q: Why can some pieces sound jumpy?

A: Some SSEYO Koan Pro pieces can be very complex, and to compose and play these in real time requires considerable processing power. We have developed a system whereby the SKME will compose in advance, as far ahead as you want it to, to provide a 'buffer' of music that will continue to play should other applications require your processor's

attention. If a piece sounds jumpy, the reason is probably that your processor just has not got the resources to carry out all the calculations it needs to create the flowing music. The first thing to try is to increase the Compose Reaction Time (in Options Setup off the menu) to adjust how far in advance it actually composes.

If this does not provide a solution you may need to set your Resolution and Cycle values (Options Setup) to higher values, maybe 50, 100, 200 or even higher. Higher values can even sometimes help to give it that extra smoothness at the expense of rhythmic accuracy, (which for highly rhythmic piece could make is sound sloppy, rather than jumpy) even with more powerful machines. If the software is making too many demands on your processor you can select Low priority mode.

Q: Why do pieces sometimes take time to stop?

A: The time it takes for a piece to stop is directly governed by your soundcard windows driver, and some are faster than others. If you are using the SB16 MIDI Out device to get SSEYO Koan Pro to drive an external synth you will find the piece can take a few seconds to stop. This delay is to do with the driver and is not the fault of SSEYO Koan Pro.

Q: Why can I not record a MIDI file?

A: Make sure you have checked the "Author allows MIDI file recording of this piece" checkbox in the piece details dialog (accessed from the Piece Details button on the top toolbar).

Q: Why do some of my Creative Labs SoundFont Banks or Gravis Ultrasound patches not seem to play?

A: Both cards

Make sure you have the correct path information included in the Options Setup Dialog and the Koan File Supplementary Search Path box. This determines where the SSEYO Koan Music Engine will look for special patches, banks or WAV files.

You will need to first save a new piece before it can load your SoundFont files or patches.

Creative Labs SoundFont compatible banks on an AWE32/AWE64/SB32/SB64

Make sure you have the right soundcard driver selected in the Options Setup Dialog. If you are trying to play a piece through the wrong driver, you will not hear your SoundFont; instead, you will hear the underlying GM patches.

If you have tried to load too large an SoundFont file for the memory available on your AWE32/AWE64/SB32/SB64, then the SoundFont file will not load at all. Try setting up the AWE Control Panel to use the GM SoundFont Bank, which will free up maximum memory.

It is also possible you have set up the patch to refer to the wrong patch in the SoundFont file. For instance, your piece is playing patch 12.1 (instrument 12 in bank 1) and your patch is defined as 12 in the SoundFont file. SSEYO Koan Pro pieces work from 1 to 128 whereas SoundFont files go from 0 to 127, so you will need to set the patch in SSEYO Koan Pro to 11.1.

Check that the Creative Labs Mixer settings for MIDI and Volume are both up and not muted.

You may have created an instrument within an SoundFont file where you have set the volume of the sample to zero or a very low value.

You may have created an SoundFont file for which one of the patches only plays on a small range of notes (perhaps even, say, middle C = 60). You must make sure the rules use by your piece allow this note/ these notes to play.

You may have the Yamaha XG System On parameter set to Yes. It must be set to No for you to play SoundFonts.

Gravis patches

Make sure you set up your MIDI Mapper to use the 'Ultrasound' setup (for patch caching apps) and not any of the other setups like Ultra 1024, Ultra 512 or Ultra 256 which are for non-patch caching applications. If you don't do this then some patches will be loaded incorrectly.

You may have tried to load too many patches into the onboard SRAM and so some of the patches have been unloaded. Gravis cards operate on a FIFO (First In First Out) principle.

Check that the Ultrasound Mixer settings for MIDI and Volume are both up and not muted.

Q: Why do I get the wrong patch/instrument playing for a voice, or the voice plays at the wrong time, or a voice won't play it at all?

A: Wrong patch/instrument or the voice is playing at the wrong time

If you seem to get notes in the piece from a patch/instrument that should not be playing, check the Options Setup dialog. Make sure that *Line Number* and *Set Instrument* are both set to <none> for the Fixed Volume Input Line section. If the Line Number is set to say 3 and the instrument is set to Piano, these values will override those in the piece for MIDI line 3. The volume for this patch will automatically be set to maximum by the SKME and it will not follow the Volume envelope - so you might be surprised to see the voice playing when it is supposed to have no volume.

Check that your voice does not share the same MIDI Channel as another otherwise voices might not play as expected. The reason being that you cannot have 2 different patches playing on the same MIDI channel at the same time (unless drums on channel 10).

If using SoundFont compatible banks, check that you have not got 2 versions of the same SoundFont file on your system. Often you may have made changes to one of the SoundFont files (e.g. changed the patch numbers) and the piece may be picking up the other one. The reason for this is the one you don't want may be in a directory in your path or defined in the Koan File Supplementary Path (see Options Setup menu).

You may have defined a list of patches for your voice. The currently used patch will be shown under the Patch parameter and it will update as the patch changes (if using Patch Bars Change parameter, for instance).

Voice not playing at all

Check that you have not muted the voice and that the Pitch is within a range that will be audible.

Check that your Volume, Velocity, Velocity Range, Velocity Change and Velocity Change Range envelopes all have non-zero values and that the Expression controller (View 6) is not set to 0.

Check your **MIDI Channel** allocations if you have more than 16 voices; if you let the SKME choose your piece's MIDI channels (MIDI Channel Sharing Reallocation parameter) remember that when a voice has zero volume its MIDI line can be reallocated to another voice which needs to play. If you try to follow or a repeat a voice that has been deselected, then you will hear nothing, as the voice is no longer available to be followed or repeated.

Check that the rules used by your voice allow notes to be played (for all cases below, too). Have a look at the 'flashing' rule bars to verify this.

If a Rhythmic voice, check that the Phrase Note Rest % parameter is not 100%.

If an Ambient voice, make sure the values for your Ambient Gap parameters are not too large, or it will never seem to play.

If a Follows voice, make sure it is following a voice that is playing (i.e. the other voice has non-zero volume/velocity), that the Follow % parameter is not 0% and that the Follow Named Voice parameter is not set to ?

If a RepeatBar voice, make sure it is repeating a voice that is playing (i.e. the other voice has non-zero volume/velocity) and that the Repeat Bars % parameter is not 0%.

If a FixedPattern voice, make sure you have a pattern defined for the voice and that the Pattern Use % parameter is not 0%.

Q: Why can't I get a voice to play a pattern or why does the pattern change?

A: Make sure your voice is a FixedPattern type.

Make sure the Pattern Bars Percent parameter is set to 100% if you want your pattern to play all the time, otherwise sometimes it will 'compose' rather than play the pattern.

Also, if your pattern is changing check the value of the **Mutation Factor** parameter. If it has a non-zero value the pattern can change.

Q: How do I change the volumes of individual drum instruments?

A: You will find if you change the volume envelope for a number of voices using drumsounds that it does not have the effect of changing the volume of the drums correctly. This is because the volume envelope applies to everything on Channel 10 *OVERALL* - it is like a master envelope. What you need to do is adjust the Velocity envelope for each drum voice.

Q: How do I change the default settings when I create a new piece?

A: When you select File New, SSEYO Koan Pro loads one of the templates. Customize these to your own settings if you wish, or create your own.

Q: How do I change the settings of the voice that is added when I select Edit Add?

A: Edit Add will create a voice based on the fixed defaults supplied with SSEYO Koan Pro - it is not possible to change these. You can, however, save a piece as a Template (.SKT) with lots of your favorite voices (see above) and their settings and use this as a template. You can then use copy and paste to do just that!

Q: Why do I suddenly get a low or high note occasionally

A: SSEYO Koan Pro has a built in factor that will occasionally take you out of the octave of notes you are in to move you to another octave (if you have set the Patch Range to be large enough). If this was not the case, the SKME might compose all its notes within the same octave.

Q: I am using an external synth module and SSEYO Koan Pro keeps crashing

A: Make sure you are not using your external synth setup up to use its own internal MIDI clock. It should be set up to use an external MIDI clock.

Q: Reverb and chorus do not seem to work correctly

A: Try setting the Master Control values to 0, as these values add to those you have chosen in View 7 (Controllers view).

Q: How do I create chords?

A: You can easily create chords by using the Auto Chord parameters. You may also use the Follows Voice Type. See Follow Named Voice and Follow Strategy.

Q: How do I use SoundFonts from multiple SoundFont compatible banks

A: Using the Edit Instrument Control (pressing the button you can see on the Patch cell will call it up) means that SoundFont Loading can done very easily! Simply select the SoundFont Bank you want and then choose the actual SoundFont to be used from the drop down combo box. You can also use the Edit Instrument Control for WAV files (with DirectSound 5).

Chapter 16 - Copyright and Licensing

Copyright, Licensing and Ownership Discussion

Important: SSEYO provides no warranties whatsoever as to the accuracy or legality of the statements provided below. We recommend you should consult your lawyer should you have any questions about Copyright. See also the software license accompanying this product.

Copyright

Computer generated music is currently a hot topic in Copyright circles and there are no real precedents set either way. The wording of the UK Copyright, Designs and Patents Act 1988 states that the owner of a copyright in a musical work is the person that created it, whereas this contrasts with computer generated musical works where the owner of the copyright in the work is the person by whom the arrangements necessary for the creation of the work are undertaken. We have designed SSEYO Koan Pro so that we allow the author of a SSEYO Koan file/ piece - i.e. the .SKD, .SKT, .SKP or any other file it might be possible for it to generate in the future - to state explicitly what rights they are prepared to relinquish (if any).

The originator of a SSEYO Koan piece or template is the owner of the copyright on that piece or template. Just as a Record Company can sell you a record or CD on which their artists song is recorded, the originator of a SSEYO Koan piece or template can provide a floppy disk/CD ROM containing their own piece(s)/template(s). Although you DO own the record or floppy disk once you have purchased it, you DO NOT own the actual piece or template itself; nor (for an audio recording as on a CD above) do you own the recording of that song: in effect YOU are licensed to use or listen to that particular song or SSEYO Koan's interpretation of the piece/template (in real-time) YOURSELF. Authors of pieces or templates can choose to waive their rights to recordings of these pieces or templates, or even rights to their re-distribution, but you need to remember that you must observe the original authors restrictions. The SSEYO Koan piece or template is a literary work and so enjoys the full protection of International Copyright law. Licensing software for use is the normal situation for software, and the originator of the software is the copyright holder under International Copyright law.

Note The reason a person has to pay the Performing Rights Society a fee when playing pre-recorded music in public is that a large number of people are listening to it, and not just you.

Recording Koan's output

In general, when you make a recording of Koan music, none of the rights in the recorded material revert to SSEYO (refer to Clauses B3 and C7 of the SSEYO Software License).

Live output from the SKME

Where the SKME is composing music is real time, we call this `live´ use (see below) and the SSEYO Software License allows you to use it in this way for personal use - please refer to the SSEYO Software License accompanying this product for the full terms. This means you can use SSEYO Koan products for all your daily personal requirements whatever they may be.

However, other than for your own personal use, we do not license you for live use of the Software in an unattended mode of operation (Clause C5 of the SSEYO Software License) and we also specifically preclude live use for public performance or broadcast (Clause C6 of the SSEYO Software License) except for a special case where you are a performer (Clause B4 of the SSEYO Software License) - please refer to the SSEYO Software License accompanying this product for the full terms. In the event that you wish to use the Software in a way not covered

by the SSEYO Software License, then you will need to purchase a special performance license from SSEYO.

Examples: Use covered by SSEYO Software License

(refer to SSEYO Software License)

Personal Use

Live attended use

SSEYO Koan music as background music on your work/ home computer	Yes
Creating your own KoanMixes with SSEYO Koan X	Yes

Live unattended use

Wake up to Koan music in the morning	Yes
Koan music around the house	Yes

Non-personal use

(e.g. for commercial purposes)

Live attended use

Individual giving a presentation with SSEYO Koan music as background	Yes
Personal performance at a gig	Yes
Audience participation in affecting Koan music	No

Live unattended use

SSEYO Koan music for telephone hold systems	No
SSEYO Koan music for hotel foyers, reception rooms, lobbies, rest areas	No
SSEYO Koan music for environmental control systems (buildings etc.)	No
SSEYO Koan music for broadcast (radio stations/ in flight rest music etc.)	No
SSEYO Koan music streaming from Websites	No

SSEYO would be pleased to discuss our licensing terms with you for Unattended, non-personal use, as outlined above.

See also

Recordable?
Redistribute in SKD/SKT ?
Piece Notes
Creating protected SKT files
Recording
Save to SKP ?

Chapter 17 - SSEYO and its Products

SSEYO®
The Internet music company

Generative music for sound environments

SSEYO (pronounced SAY-OH) was established to respond to the ever increasing demand for quality of life, personal creativity and personal fulfilment and it aims to provide this through the SSEYO Koan System and Koan music for sound environments. If you want to know more about the company or its products, have any ideas as to what you would like us to develop next or suggestions as to how we may improve our products, please do contact us at the address below:

SSEYO Ltd

Weir Bank

Monkey Island Lane, Bray

Berkshire SL6 2ED, UK

Sales, online ordering and general information:

Internet:	koaninfo@sseyo.com
WWW:	http://www.sseyo.com
Online ordering:	http://www.sseyo.com/sseyo_in.html
Mail order:	http://www.sseyo.com/sseyo_pg.html
CompuServe:	GO SSEYO
Tel:	+44 (0) 1628 629828
	(9:00am to 4:00pm GMT Monday to Friday, excluding holidays)
Fax:	+44 (0) 1628 629829

Technical Support:

See support information

Trademarks

SSEYO Koan Albums/ SSEYO Koan Web

SSEYO is the world's leading publisher of Koan music titles. Koan music titles come with the SSEYO Koan Web Gold or Koan Web Platinum software for playing back the 'albums' or 'collections' of Koan pieces that they contain.

“Generative Music 1” by Brian Eno

In April 1996 SSEYO published the KoanMusic title ***Generative Music 1 with SSEYO Koan Software*** by the Ambient Music pioneer and producer of U2/David Bowie - **Brian Eno**.

Generative Music 1 includes 12 Koan pieces created by Brian Eno with SSEYO Koan Pro V1.2 (not included). The 12 pieces themselves are available for online purchase via the SSEYO Website. A floppy disk boxed product is also available, which contains the 12 pieces and a Koan Player (Koan Plus).

"Some very basic forms of generative music have existed for a long time, but as marginal curiosities. Recently, however, out of the union of synthesizers and computers, some much finer tools have evolved. Koan Software is probably the best of these systems, allowing a composer to control not one but one hundred and fifty musical and sonic parameters within which the computer then improvises (as wind improvises the wind chimes). The works I have made with this system symbolize to me the beginning of a new era of music. I really think it is possible that our grandchildren will look at us in wonder and say: "you mean you used to listen to exactly the same thing over and over again?" Brian Eno 1996

Note The above product is solely for use with a AWE64/32 or Sound Blaster 64/32 soundcard.

“Float” by Tim Didymus

Float - Ambient Koan pieces of exquisite beauty and form. It is the first in a range of own-label Koan music titles on the SSEYO Konstellations label. Available for online purchase via the SSEYO Website.

"Like a live musical improvisation, these Koan pieces can endlessly explore variations against the back-drop of a 'rule-base'. I like to think of these pieces as having their own 'inner lives'.

The way for this type of musical process, known as 'generative music', has been opened up by the use of computer processing to interpret musical rules specified by the artist. The inspiration for these pieces derive from a variety of sources. I have used dice and coins to provide indeterminate numbers for pre-determined rules, I-Ching (The Chinese Book of Changes) Consultations/strategy cards and even a drawing by a blind friend on graph paper.

I found my 'non-involvement' in chance operations to create music in this way, not only sympathetic to the nature of generative composition, but also a way of breaking through the techniques of motif, rhythm and arrangement. Simply leaving me the question "is this a good piece of music?"

Of course, the composer is living on a tight rope, there is no rehearsal, only the reality of the output of the process. The generative composer is no longer concerned with certainties, but is looking to design systems which can constantly evolve, unlocking the form."

The CD ROM contains just under an hours worth of recordings of Koan music, featuring a range of soundcards. The audio tracks are all recordings of selected Koan pieces provided on the CDROM. As well as the Koan pieces, it also contains the SSEYO Koan Web Platinum software (Koan music player). The electronic version contains the Koan pieces only.

Each Koan piece in Float has been specially written to take advantage of the palette of sounds available in one or more of the following top PC soundsystems:

PC soundcard/soundsystem:

- 9 pieces for Creative Labs AWE64/AWE32/Sound Blaster 32
- 9 pieces for Creative Labs Sound Blaster 16 / Win 3.1
- 9 pieces for Creative Labs Sound Blaster 16 / Win 95
- 9 pieces for Yamaha DB50XG
- 9 pieces for Roland SCC1 or compatible expander module
- 9 pieces for IBM MWave

- 9 pieces for Yamaha Soft Synthesizer SGM -MM
- 9 pieces for Gravis Ultrasound
- 9 pieces for Orchid NuSound
- 9 pieces for TDK MusicCard

"Niskala" by Jamuud of Loop Guru

Niskala - Koan pieces & SoundFonts for Balinese Magic. This is available for online purchase via the SSEYO Website and also as a CD-ROM.

Niskala is a Balinese word that has no definite transliteration but can be felt as 'the magic hidden underneath'. In Bali, many rituals and ceremonies take place that can be enjoyed on an external level by the casual observer. What we see is 'sekala', the form and the ceremony, but what is unseen, the faith and the magic, is 'niskala'.

At its core, Niskala is a collection of generative Koan music pieces specifically created by Jamuud to take advantage of the palette of sounds available in the Creative Labs AWE32/AWE64 SB32/SB64 soundcards. Some of the pieces also use SoundFonts (which contain real sound samples) to achieve their beautiful effects.

The CD-ROM version contains approximately an hours worth of studio mastered recordings of some of the Koan music tracks on Niskala, specially selected by Jamuud. These audio tracks are Jamuud's specially produced recordings of some of the Koan pieces also provided on the CD-ROM, which also contains 26 original Koan pieces of an ambient nature, 9 SoundFont banks and SSEYO Koan Web Platinum software (Koan music player). The electronic version includes the Koan pieces and Soundfonts only.

Check out our website or forums for more details of our products and upcoming releases.

SSEYO Koan Players

The family of 'Koan music' players from SSEYO has been designed to cater for the different requirements of the discerning user. They are all full playback systems and, even though most of them are freely available, none of them "time-out". They come in 3 flavours - the Interactive Koan Music Control, the Non-Interactive Legacy Koan Plugin and the Standalone Koan Player. They are all for playback of Koan pieces/ KoanMixes generated by Koan artists (with the Koan music authoring tools Koan X and Koan Pro), though the interactive version also allows for the latest in interactive webmusic experiences. There are also 2 premium standalone player applications, Koan Web Gold and Platinum, that allow Koan album* playback.

* A Koan album is a special Koan file containing a playlist of Koan pieces.

All the Koan Players have the facility to play Koan pieces that utilise SoundFonts and WAV files (with DirectSound 5 and the latest version of the IKMC), and the standalone Koan Web players also playback MIDI files and come with a built in Koan music-sensitive screensaver! The most advanced of these (Koan Web Platinum) allows you to create playlists or 'albums' of Koan and MIDI files (which is not available in the Plug-in or IKMC).

The IKMC is able to play back standard embedded Koan pieces, but, in addition, will also allow you to experience interactive music on those pages that have it. The IKMC is a Koan player superset if you like, which includes the non-interactive players (16 bit plugin and Koan Web).

The product family structure and availability are as follows (please see our website, or CompuServe forum for the latest downloads):

The product family structure and availability are as follows:

SSEYOs Interactive Koan Music Control (IKMC) - for Win 95 and NN3/4 or IE3/4 (32 bit only)

Creates the same music as the standard non-interactive Koan Plug-in below, but it allows a massive degree of interactivity through Netscapes LiveConnect technology or Microsoft's ActiveX technology, and it is now the standard Koan player for the Internet (it includes a Koan LiveConnect Plugin, Koan ActiveX Control and SSEYO Koan Music Engine amongst other things). The IKMC allows entire pieces of high-quality low-bandwidth music to be *created* dynamically in real-time according to users actions, and provides the inbuilt facility to smoothly morph music between webpages. A number of powerful functions are provided that can be used to manipulate over 200 hundred Koan parameters in real-time. There is also full support for the background asynchronous loading of any additional files utilised by a Koan piece, such as SoundFonts (for users with soundcards that support this) or WAV files (for users with DirectSound 5 and the latest version of the IKMC), meaning contextual sound samples of e.g. instruments, found sound or natural sounds can augment the visitor's aural experience. Website developers after interactive music content are no longer bound to purely hard-wired MIDI sounds. This is a non-timeout product, and through a right mouse click on the control icon you can call up a menu where, amongst other things, you can even save mixes to a 2 minute SSEYO Koan Play (SKP) file for offline playback or use on your website (original artists/authors rights permitting). See our online IKMC Walkthough to get a feel of just some of its potential and check out our online ActiveX API or LiveConnnect API if you want to find out what there is you can change and how you can do it. Freely available from the SSEYO Website.

Non-Interactive Legacy SSEYO Koan Player Plugin - for IE3+ or NN2+ (16 bit version):

The Koan Plug-in loads embedded or linked Koan files and plays back Koan music, generated locally and in real time on a multimedia PC. Freely available from the SSEYO Website.

SSEYO Koan Web Silver - standalone player application:

This is the economy standalone Koan music player - because it is FREE for you to download from our website! It is a standalone Windows application for any browser and has Volume/Pan/Chorus/Reverb controls, Online help and music sensitive screensaver! It is ideal for playing pieces 'offline'. Freely available from the SSEYO Website.

SSEYO Koan Web Gold - standalone player application:

Allows you to playback a complete pre-configured album* of pieces, in addition to single Koan pieces. This is the perfect player for use with pre-configured albums of Koan pieces provided in This is the perfect player for use with pre-configured albums of Koan pieces provided in titles like Niskala or Float where you do not want to alter the running order.

SSEYO Koan Web Platinum - standalone player application:

Use this premium Koan Player if you want to make up albums/collections of your favorite Koan tracks or want to set your own running orders for albums of Koan pieces provided in titles like Niskala, Float or Generative Music 1. It is also ideal for playing collections of pieces 'offline'. See our online store for 16 bit version or 32 bit version. Also see Niskala on our physical goods order form, as on the CD ROM are included both 16 and 32 bit versions of Koan Web Platinum.

SSEYO Koan Based CD ROM Albums

SSEYO has adopted a policy to develop the market for SSEYO Koan based CD ROM 'albums'. We want to help you produce your own CD ROM albums, albums that could contain a wealth of your WAV files, samples in SoundFont compatible Bank format, Gravis patches and SSEYO Koan pieces that make use of them. The reason for doing this is to create a new market for generative music. This music can always be exciting, and if it makes use of your own samples and WAV files the music it creates will truly be incredible. The concept of putting the operating system software (in this case the SSEYO Koan album player, SSEYO Koan Web), which includes the SKME, on each CD-ROM is new and unique - your customers would be buying all they need to play your albums on the CD-ROM itself! All the customer would need to do is load the version of SSEYO Koan Web supplied on the CD ROM and it will call up your album.

SSEYO will be happy to license to you a serialized copy of SSEYO Koan Web for you to put on the CD ROM album you wish to release. Each different album you release would require a new serialized version of SSEYO Koan Web, to match the version of the SKME your copy of SSEYO Koan Pro would utilize (the SKME) is undergoing continuous development, so each title needs to be matched to the engine you used to create it). The licence fee is charged on a per copy basis and is on a quantity sliding scale; please contact SSEYO for further details. Even if you do not want to bring out your own CD ROM albums we may be interested in publishing them for you, so please get in touch!

SSEYO Koan X Product Range

There is a SSEYO Koan X product to suit everyones requirements and everyones pockets - from the freely available SSEYO Koan X Silver to the advanced Gold or premium Platinum editions. See also the SSEYO Koan X Feature Sets.

SSEYO Koan X Silver - FREELY available from the SSEYO website

A great introduction to the Koan X system with the capability to create drag n mix Koan pieces of 2 minutes length (and you also need to restart playback every 5 minutes). Comes with 30 Koan templates. You can even save your KoanMixes to an SKP (SSEYO Koan Play) format to put on your website, no questions asked!!! All someone needs to hear the Koan music on your site (and KoanMix file sizes are typically 5Kb-20Kb) is one of the freely available Koan Players - Koan Plug-in, Interactive Koan Music Control or Koan Web Silver. A few of the features included are as follows: mixing volume and stereo position; automatic piece mixing facility; changing pieces roots and scales; individual template controls for reverb and chorus.

SSEYO Koan X Gold

Includes more features giving you the chance to have even more fun creating and mixing Koan music. Comes with 60 Koan templates and, in addition to the Silver version, allows you to: create Koan pieces of up to 8 hours (with no 5 minute restart necessary); change the instrument patch - either GM, GS or SoundFont (if your soundcard supports them); preset the GM patch for the template; save the piece to an SKD file for later re-mixing; include your own remix notes; meters for MIDI channel usage, polyphony, SoundFont usage, reaction time.

SSEYO Koan X Platinum

The ultimate Koan X drag n mix system. This is the easy-to-use tool for everyone who wants the maximum KoanMix experience. Comes with 100 Koan templates. In addition to all the features mentioned in the products above, you also get to: change the pitches of the instruments; create special time based arrangements with the Koan Mix Editor; record the output to MIDI file; record to an audio file; mute and solo individual templates; create new mixes from a random selection of templates; create an area to 'bound' the automatic mixing; scratch mix pieces. You can purchase Koan X Platinum online from the SSEYO website!

SSEYO Koan X templates

Packs of 50 top quality Koan templates created by SSEYO for you to extend and enrich the music you will be creating with Koan X (you can also use them as the basis for pieces in SSEYO Koan Pro 2). There will be many packs available, each including new hot rhythm sections, cool effects and filter sweeps, burning basses and the latest cool dance atmospheres and riffs. Create your own palette of musical expressions. You can purchase SSEYO Koan X templates online from the SSEYO website!

SSEYO Koan X Product Range Feature Sets

SILVER - FREE evaluation version

- 30 templates
- Save your mix to encrypted SKP (non-reopenable) file with 2 minutes fixed piece length- ideal for creating free Koan pieces for your website. Mix must be restarted after 5 minutes of playing.
- Save Author's mix notes to SKP file
- Display information on templates
- Master Reverb/Chorus/Volume controls in the Music panel
- Start / Stop / Fast Forward / Rewind / Pause controls (audio/MIDI recording disabled)
- Copy/Paste templates within the mix window
- Piece Root change control
- Scale rules change control with 10 pre-defined scale rules
- Template level Reverb and Chorus controllers in Template Information panel
- Vertical axis fixed to Volume only
- Simple Drift control (with no max/min bounding bars or locks)
- Advanced support for WAV-based instruments using Direct Sound, which supports both instruments based on small Wave file fragments, and Wave file-based breakbeats ! (NEW for Koan X V1.1 !)

GOLD - Standard version

- All features in SILVER
- 30 further templates (giving **60 in total**)
- Save pieces to SKD files

- Save author's Mix notes to SKD files
- Piece length change control - from 1 second to 8 hours. No 5 minute restart necessary on KoanMix playback.
- Polyphony level meter
- MIDI channel usage meter
- SoundFont usage meter
- Reaction time meter
- GM Patch changing for templates
- Patch Bank changing for templates
- SoundFont (SBK) Patch changing for templates
- Wave file (WAV) Patch changing for templates (NEW for Koan X V1.1 !)
- Multiple patch changing (for multiple voice templates)

PLATINUM - Premium version

- All features in GOLD
- 40 further templates (giving **100 in total**)
- Mix Editor for automatic muting of templates throughout a pieces/ creating time based arrangements
- Scratch mixing capability (for use with Mix Editor)
- Template Pitch changing (vertical axis)
- Record to MIDI/(WAV) control
- Create new mixes from randomly selected templates via Styles (File New dialog)
- Mute / Solo individual templates
- Drift bounding bars (via vertical axis control)
- Advanced vertical/horizontal locks for Drift control

Chapter 18 - Glossary

Have you ever wondered what those odd sounding instruments in the General MIDI specification really are? We list these and other information we think you might need or just be interested in. The numbers after some entries refer to the MIDI control code - see CONTROLLER.

AGOGO

A clapperless bell struck with a metal rod. It originally came from Nigeria.

ATTACK

That part of an sound envelope which occurs as soon as the sound starts, e.g. when the key is first hit - see ENVELOPE.

AMBIENT

Strictly, surrounding on all sides! In SSEYO Koan terms, an ambient sound is one that lasts for a set time interval, set by Ambient Duration, rather than a note length selected by the Rhythm rule. The minimum interval between such sounds is set by the Ambient Gap parameter.

AWE 32 / AWE 64 / SB 32 / SB64

One of a range of top soundcards made by Creative Labs, manufacturers of the SoundBlaster range. Each of these soundcards contains a wave synthesizer and sound banks, allowing substitution of user definable sounds beside those already built in to the onboard ROM. SSEYO Koan music is able to use the latter but then other users without this card would not be able to hear the music as intended.

BANKS

Registers of instruments, presets or noises which are available for allocation to specific channels for use by a card or synthesizer.

BAR

Divisions of music into equal sections described by the time signature (q.v.). Also known as a measure.

BONGO

A small single-sided Afro-Cuban drum originally hollowed out of solid wood. Usually paired and played with the hands..

CABASA, CABACA

A round gourd fitted with a handle and covered with strings of beads. Rattled or hit to make the beads sound on the hollow surface.

CABLE

In MIDI parlance, a twin shielded wire with 5 pin DIN plugs on either end used to connect synthesizers, computers, etc., by means of their IN, OUT or THRU ports. Although the plugs have 5 pins, only three are used - one for the two data wires and one for the shielding. Information only travels down an individual cable in one direction - e.g. from the OUT port of one machine to the IN port of another. A corresponding, and absolutely similar , cable may be necessary to take information in the reverse direction - from the OUT port of the second machine to the IN port of the first. It does not matter which way round the cable is connected. Several synthesizers and controllers can be daisy chained together.

CALLIOPE

Tuned steam whistles. Typically as used on the American Mississippi river boats and seen in fairground organs.

CHANNEL

A MIDI signal passing down a wire can be allocated to one of several channels - usually 16, by means of software control. Sound generators can be set up to respond to only one channel and ignore others. In this way it is possible to play one note on a vibraphone and another on a trumpet apparently at the same time without the two interfering with each other. Changes in volume and other settings can also be sent to individual instruments in this way. Changes affecting all instruments can be sent by system messages. It is also possible to set up individual synthesizers and expanders to respond only to certain channels or messages.

CHARANG(O)

Small fretted lute rather like a small Spanish guitar. Originated in Bolivia and Peru.

CHIFFA

Chifonie is a hurdy-gurdy - a mechanical violin type instrument the strings of which are sounded by a rotating rosined drum turned by hand while the string lengths are controlled by a keyboard.

CHORUS (93)

MIDI controller which governs the amount of slight reverberation (usually less than 50 milliseconds) applied to make a single instrument appear as if it was several instruments playing just that tiny bit out of synchronization like a group of real musicians. Only available on some sound cards but present on most synthesizers and expanders.

CONGA

A long tapering drum about 90cms long and 25cms across played with the fingers and heel of the hand. Latin American.

CONTROLLER

The facility in MIDI by means of which a voice, or voices, or the overall setup, are changed in some definite way. The MIDI specification allows for 127 such controllers but most are unused. In use, the controller number is sent down the cable followed by the actual setting to be used. The recognized controller number is often attached to the effect name as it is in this glossary. Hence PAN (10) is controller number 10 which determines the stereo position of an instrument. All MIDI synthesizers, expanders and sound cards respond in the same way, no matter what their make, but not many support all the controller commands possible. This is not a real problem, however, as a card will just ignore anything it does not understand (and not crash!).

CUICA

A Brazilian drum with a large pitch range.

DAMPER/HOLD (64)

MIDI controller which effects the amount of damping applied to a note, similar to the soft pedal of a piano (sometimes referred to as sustain). Range is from 0 to 127, the latter being maximum dampening (generally 0-63 is off, 64-127 is on). Only a few sound cards support this facility but many synthesizers and expanders do. See SUSTAIN.

DECAY

The falling off of a note after the initial sound. See ENVELOPE.

DORIAN

A scale such as you would get by starting at D on a keyboard and playing all the white notes until you reach D again. One of the old medieval ecclesiastical modes. See also - MODES

ENVELOPE

1. In SSEYO Koan Pro, the graphic representation of how a controller will affect the sound over time. Typically, the way the volume will vary according to the height of the graph allocated to each instrument playing. The same principle is applied to the tempo envelope, etc.
2. In MIDI the term is applied in a similar way to the volume of a particular sound. The volume will vary according to the particular settings of portions of the envelope. As applied to a simple synthesizer - the ATTACK is the first rising portion of the sound when the key is first hit. It rises to a peak and then decays over the DECAY period until it reaches a state where it remains in SUSTAIN as long as the key is held down. After the finger is removed from the key it fades away over the RELEASE period. In some cards and most synthesizers, these individual portions of the envelope can be set individually and will have subtle or drastic effects on the sound produced. For example, the amount of sustain will determine whether a sound is piano like - fading slowly , or organ like - staying steady until released. Most cards do not respond to these settings but the Roland SCC1 does. The envelope described above is the typical ADSR type but most synthesizers allow much more detailed editing of the individual parts of the envelope (see Chapter 9 and the AWE EMU8000 controllers).

EXPANDER

A synthesizer without a keyboard and controlled by another synthesizer or computer. A very effective way of upgrading the sounds produced via the computer's MIDI software as expander sounds are usually in a different league, sound-wise and facility-wise, to the computer's plug in sound card. They need to be connected to an amplifier to produce actual sound.

EXPRESSION (11)

MIDI controller affecting the volume of an instrument in addition to the usual controller VOLUME (7). Not supported on most sound cards.

EVENT

Something happening on a MIDI channel, e.g. note on, volume change, etc.

FREQUENCY MODULATION

FM - The way many sound cards generate instrument sounds by mixing sound waves and then changing them by applying another. The sounds produced are not on a par with WAVE SYNTHESIS (q.v.) Older synthesizers used this method to generate sounds but it is being superseded by more modern methods.

GENERAL MIDI (GM)

A set of patches agreed by all major manufacturers of MIDI equipment which ensure that a piece of MIDI music played on one card or synthesizer will sound the same as that played on another. Thus if an instrument is allocated a preset of 19 it will sound like a church organ no matter what make of generator is being used. The actual sound heard may vary somewhat according to how it is being generated and the quality of the synthesizer used, but it will still simulate a church organ. The specification also includes a 'drum' patch that will sound certain unpitched percussion instruments according to the note being played. Thus, for instance, if middle C is played the sound generated will be that of a high bongo. In this way, all the percussion instruments are available using only a single channel - usually channel 10.

GS

Roland's addition to the above allowing further instruments and drum patches to be used by way of 'banks' - see the descriptions for AWE and Gravis parameters in Chapter 9 for further information. GS and banks are now available on many other makes of synthesizer and card as well.

GUIRO

A ribbed gourd played with a scraper (c.f. washboard). Found in Caribbean and South American music and used as a rhythm instrument.

HAMMOND ORGAN

Electric organ invented in Chicago in 1937. The sound in the original instruments was generated by rotating tone wheels.

HARMONY

Blending of two or more notes together to form a pleasing (or otherwise) combination. In SSEYO Koan Pro the harmony is controlled via a special harmony rule which can be set up for each instrument. See also - RULES.

HYPO-

Used in a scale to indicate a starting point 4 notes below, and an end point 5 notes above, the main note of the parent scale, e.g. Hypo-Dorian. Also known as the Church or Ecclesiastical mode, as opposed to the Authentic mode, when playing the scale starting at the root.

IN

A MIDI port on synthesizer, expander, processor, computer, etc. by means of which a MIDI signal is read in. Such a signal will have originated from an 'out' or 'thru' port on another synthesizer. It is a 2 wire only port. See also - CABLE.

INSTRUMENT

The mimicked instrument voice produced by a sound card or synthesizer. A PRESET (q.v.). See also - PATCH.

KALIMBA

An instrument with many tongues of metal or wood that are pinged (like a ruler). Originates in Africa. Also known as a Lamellaphone.

KEY

The scale used by a piece of music. In SSEYO Koan Pro, the key is denoted by the 'Root' chosen in the composition. The root can be changed in the course of the piece either randomly or preset. The other part of a key is the scale and SSEYO Koan Pro will generally use one scale (per voice, and these can all be the same) throughout the piece. The exception to this is to use the Scale Availability envelope - refer to Chapter 8.

KOTO

A long Japanese zither. A very old instrument with strings supported by moveable bridges which can be slid along to tune it to different keys. Played with a plectrum or plucked.

LINE

See Channel.

LIST

A list or table of values that can be used by a parameter (refer to Chapter 3).

LYDIAN

A scale similar to one you would get by starting at F on a keyboard and playing all the white notes until you arrive at F again. An old ecclesiastical mode.

MAJOR

A scale in which the semitones occur between the 3rd and 4th &7th and 8th notes. Same as Hypo-Lydian - see HYPO and LYDIAN and MODE.

MARACAS

Small gourds filled with the original dried seeds and used as rattles.

METER

See TIME SIGNATURE

MICRO CONTROLLER

A controller that will continuously change its value throughout the piece in a random way (but with constraints you set). These parameters in SSEYO Koan Pro are called micro controllers because they are generally used to create subtle changes and variations in the music to allow a more natural sounding instrument. For instance, a violin player will not always (unless they are very good) get 100.0000% accuracy on hitting a note. These parameters allow the SKME to build in slight variations to pitch, modulation, note timing and volume.

MIDI

Acronym for Musical Instrument Digital Interface. This is the protocol used by the SSEYO Koan Music Engine for the actual output of the music it generates. The specification was outlined in 1981 by Dave Smith of Sequential Systems and then adopted by the major manufacturers as a world wide standard. Since then it has been modified and added to. Notes are defined by sending data down a pair of wires in a serial fashion - one after the other. 16 Channels are usually available by means of which individual instruments and/or sound generators can be addressed (see - CHANNELS). Control codes can be used to change certain parameters of the receiving synthesizer or sound card such as the volume to use, etc. Individual manufacturers can address special properties of their own synthesizers via a system exclusive message which only they understand. MIDI controls are discussed under their actual names, e.g. PAN. See also - General MIDI (GM).

MIDI FILES

A file, suffixed .mid, which holds all the information for a piece to be played by a MIDI synthesizer or sound card. It consists of the setting up instructions and details of the notes to be played but not the music itself - i.e. it will not play back directly like a .WAV file. Recording data in this format results in small file sizes when compared with the extremely large ones generated by recording the music direct, e.g. as .WAV files (q.v.). The advent of General MIDI ensures that each piece will sound similar and use the same instruments no matter what card or synthesizer is used to play it back. MIDI type 0 files (which is what SSEYO Koan Pro will record to) send all the data for the whole piece merged onto one channel, MIDI type 1 files keep the tracks separate. See also - GENERAL MIDI.

MIDI MAPPER

Microsoft's Windows facility (mainly referenced in this manual for Windows 3.1) for changing the settings that your PC uses to talk to the sound card or external synthesizer - accessible via the control panel. The type of MIDI used, number of channel allocations and also the patch settings, etc. can be selected from here. If your tunes don't sound right, check out the settings.

MILLISECOND

1/1000th of a second.

MINOR

A scale in which the semitones occur between the 2nd and 3rd, 5th and 6th & 7th and 8th notes. Same as Hypo-Dorian - see HYPO and DORIAN and MODES.

MIXOLYDIAN

A scale similar to one you would get by starting at G on a keyboard and playing all the white notes until you arrive at G again. An old ecclesiastical mode. See MODES.

MODES

Scales originating in old medieval church music. There are 8 modes, one for each note of the octave. The semitones are in different places for each mode. The easiest way to hear what they sound like is to start at each note of the C scale on a keyboard and play every white note until you come to the octave of the note you started at. You can create your own modes in SSEYO Koan Pro by adding/editing the Scale rules. See the common modes under their actual names in the glossary.

MODULATION (1)

MIDI controller (q.v.) which changes the parameters of a specific effect - usually vibrato. This controller is operated by the modulation wheel on a synthesizer. Most simple cards do not support this function

MULTITIMBRAL

The ability to play several different instrument sounds at the same time (as opposed to notes at the same time- see POLYPHONY). Some expanders and synthesizers can manage 32. 16 is more usual.

MUTATION

The gradual change of the notes of a phrase or pattern as the tune progresses.

OCARINA

A clay instrument shaped like a large pear with a side mouthpiece and holes for the different notes. Played by blowing into it and covering holes with the fingers.

OUT

MIDI port on a synthesizer, computer, etc. through which the signal passes out. This is usually connected to the IN port of another device.

PAN (10)

MIDI controller which determines the stereophonic position of an instrument. When set to 0 the sound will be on the left and at 127 will be on the right. A central instrument will have the setting of 64.

PARAMETER

Setting of a variable which controls a specific effect such as volume, tempo, etc.

PATCH

Allocation of instruments, or presets, to certain channels or, in the case of a drum set, to actual notes.

PENTATONIC

A scale of 5 notes sounding similar to one you would get by playing all the black notes of the keyboard.

PHRASE

In traditional terminology a series of notes which may include rests. In SSEYO Koan Pro the phrase is a continuous stream of notes where rests may be interjected by the Phrase Note Rest % parameter.

PHRYGIAN

A scale similar to one you would get by starting at E on a keyboard and playing all the white notes until you arrive at E again. An old ecclesiastical mode. See MODES.

PIECE

SSEYO Koanspeak for a finished complete composition.

POLYPHONY

The ability of a soundcard or synthesizer to play several different notes at the same time - not necessarily on different instruments - see MULTITIMBRAL. (Many new expanders and synthesizers can manage up to 64 but Windows 3.1 restricts this to a maximum of 16.)

PORTAMENTO (65)

MIDI controller allowing the sliding up to, or down to, the required note. The start distance away from the required end note is governed by the setting, 0-127. 64 means that no portamento is applied and is the default. Not available on many sound cards but present on most synthesizers and expanders.

PRESETS

The built-in instrument sounds present on a sound card or synthesizer - e.g. cello, vibraphone, etc. The instruments are allocated a number to identify which one is to play. A standard allocation of presets is GM or General MIDI (q.v.)

QUANTIZE

Shifting notes of music so that they more closely align with actual divisions of the bar. A person playing a piece may play the note a fraction of a second before or after it's exact expected position. Quantizing corrects this. It might make the music sound rather mechanical. The opposite is humanizing which deliberately introduces timing errors to more closely resemble a human-being playing rather than a machine. SSEYO Koan Pro achieves this with the use of Micro Controllers (see Chapter 3)

RELEASE

What happens to the sound of a note after the finger has been removed from the key. See ENVELOPE.

REVERB (91)

MIDI controller which determines the amount of reverberation applied to an instrumental sound. This may be applied to individual instruments or only the whole piece - depending on the abilities of the sound card or synthesizer. Many sound cards do not include this facility.

RHODES PIANO

One of the first truly electronic pianos, invented by Harold Rhodes around 1962. The keys cause hammers to hit small metal strips which vibrate (like pinging a ruler). A pickup on each strip amplifies the note. The sound was so popular that when synthesizers were invented they incorporated a Rhodes emulator and it is now one of the GM presets!

RHYTHM

Pattern of note lengths which determine how regular a particular piece sounds. In a SSEYO Koan piece this is determined by the setting of the rhythm rule - see RULES

ROOT

The base note of the key in which a piece plays.

RULES

Settings used by SSEYO Koan to determine the chances of a certain note length, pitch, next note or harmony being chosen by the composer. In SSEYO Koan Pro these can be set by the user at the start. Several rules can be set up which are then selected by the SKME by chance (also controllable).

SAMPLE

A piece of actual sound in digital format. This can be recorded directly through a microphone or off a record or CD and then used as an instrument (if you have an AWE32/AWE64/SB32/SB64 or Gravis Ultrasound) or incorporated into a piece as a WAV file. It could be used either as the original or processed into a different sound altogether. Most sound cards have this facility but software of some kind is required to do the actual sampling. See also WAVE.

SAMPLER

A device for taking samples - see above. Most sound cards incorporate this facility.

SCC1

A specific sound card manufactured by Roland.

SCRATCH MIXING

The process where you manually change parameter values and trigger voices while the piece is playing. The tools for this is are the ALT+1 to 9 keystrokes (for moving through the piece in 10% jumps) and the Force voice to play.

SEMITONE

A half step change in pitch such as occurs between a black key and a white key next to it on a keyboard as compared to a full step tone such as occurs between adjacent white keys such as C & D.

SEQUENCER

Device for assembling notes in the order and length they are going to play and recording this digitally as opposed to an analogue means such as a record . Usually a computer recording into its memory or onto a computer disk. The sequencer can usually input notes directly from a keyboard or any MIDI source, or some programs allow notes to be written directly onto a 'piano roll' or stave. The music is then saved as a MIDI file which can later be 'played' by the same, or another, MIDI card or synthesizer, etc.

SHAKUHACHI

A flute made of bamboo and often curved up at the end. Originated in Japan and China. Played by blowing down the end and placing fingers over the holes.

SHAMISEN

A Japanese 3-stringed lute with long thin neck played by plucking the strings. The first string can be made to rattle against the wood as it vibrates.

SHANAI

This is a mistake in the original MIDI specification! The actual spelling of this instrument should be Sahnai which is a type of oboe used in Asian music.

SITAR

A complicated lute with gourd resonator and long fretted finger board often with smaller gourd at the other end. Various forms exist and have evolved mainly in India. There are usually 5 playing strings and 2 drones. Other sympathetic strings are also placed under the main strings and add to the sound produced by resonating.

SKME

The SSEYO Koan Music Engine behind the SSEYO Koan range of products. The SSEYO Koan DLL for Koan Pro (SKME4.DLL or SKME4_32.DLL) is a K4 engine, meaning it interprets in real time all the parameters used in a piece when composing the musical output.

SOFT (67)

MIDI controller allowing the softening of a voice. Not many sound cards support this function.

SOSTENUTO (66)

MIDI controller which determines the amount of sustain added to the note. Not available on most sound cards but many synthesizers and expanders support this function.

SUSTAIN

That part of the envelope of a synthesized sound corresponding to the period a piano key is held down after sounding the note and it having reached a steady state, before releasing it. See ENVELOPE and DAMPER/HOLD(64).

SYNCOPATION

Changing the stress from the strong beat of a piece of music to a weaker one.

TAIKO

A Japanese double-headed skin drum played with sticks.

TEMPLATE

An importable SSEYO Koan file/piece providing an easy method of setting up a new piece. The rhythm templates provided with SSEYO Koan Pro contain drum patterns already incorporated into the file/piece.

TEMPO

The speed the music is played in beats per second.

TIMBRE

The individual tonal quality of an instrument which distinguishes it from another instrument playing the same note, e.g. a violin and trumpet. The differences are mainly caused by the harmonic content of the note generated.

TIME SIGNATURE

Also known as METER. The number of notes in a bar, or measure. Usually expressed as a fraction - the number of notes over the length of the notes, e.g. 4/4 which means 4 quarter notes per bar. SSEYO Koan programs are capable of a wide variety of time signatures.

THRU

A port present on many synthesizers, expanders and MIDI gear. It replicates the data coming in the IN port and makes it available for other synthesizers further down the chain. It is therefore connected to their IN port.

TIMBALE

Small paired tuned drums usually made of metal bowls with a single skin. Latin America.

TOM (TOM)

Double-headed African drum usually with wooden shell and played with sticks.

TONE

A full interval between notes as instanced by the distance between adjacent white notes such as C & D on a keyboard.

ULTRASOUND

A wavetable soundcard from Advanced Gravis Technologies that support loading of user definable patches onto the onboard RAM.

VELOCITY

Strictly, the speed at which a key is hit. On a piano, the faster it is hit, the louder it sounds and so too with MIDI. The velocity parameter is variable from 0 to 127 (loudest). 64 is the mid-point and the default value. This value forms part of the 'note on' data itself. [*TIP - as all the percussion instruments are on one drum channel (apart from those which are GM instruments in their own right), they are all affected equally by the volume controller - i.e. you cannot have a loud kick drum followed by 2 soft hi-hats. But, because the velocity is part of the note on command and not a controller, you can use it to vary the loudness of the percussion instruments separately*!]

VOICE

The sound of an individual instrument as allocated to a MIDI channel, e.g. trumpet.

VOLUME (7)

MIDI controller which determines the volume at which an instrument will sound. It can range from 0 - 127 (loudest). In SSEYO Koan it is continuously variable. The actual volume heard is also dependent on the velocity of the note. See also VELOCITY.

.WAV

Microsoft's file format for actual recorded sounds in digital form - as opposed to a data format as used by MIDI. SSEYO Koan programs are capable of inserting such sounds into a piece as it is played.

WAVE SYNTHESIS

Method of generating musical sounds by using samples of actual instruments and noises as a starter. This results in far more realistic emulation compared to FREQUENCY MODULATION or FM (q.v.) used by the cheaper sound cards and synthesizers.

XG

Yamaha's new specification of voice allocations similar to, but broader than, General MIDI. See also GM and GS.

GLOSSARY courtesy of and compiled by David Annal.

Chapter 19 - Navigation and Shortcuts

Keyboard Shortcuts - Navigation

To move	Press
One cell to the left	LEFT ARROW
Once cell to the right	RIGHT ARROW
One cell up	UP ARROW
One cell down	DOWN ARROW
End of voice row	END
Beginning of voice row	HOME
To a position in the piece (0% to 90%)	ALT + 0 through 9
Connect to SSEYO Web Site	CTRL + W

Keyboard Shortcuts - Parameter and Envelope Views

To change to	Press
From parameter to envelope window (toggle)	F6
Views 1 through 9	CTRL + 1 through 9
View 10 though 15	CTRL + SHIFT + 0 through 5
Voice X View	CTRL + I
Next view	CTRL + PAGEUP
Previous view	CTRL + PAGEDOWN
Volume envelope	CTRL + 1 (env window)
Velocity envelope	CTRL + 2 (env window)
Velocity Range env.	CTRL + 3 (env window)
Velocity Change env	CTRL + 4 (env window)
Velocity Change Range env.	CTRL + 5 (env window)
Pan envelope	CTRL + 6 (env window)
Select help on selected parameter	CTRL + F1

Keyboard Shortcuts - Numbers and Text

To	Press
Select a cell for editing/ apply value after editing	ENTER
Increase value by 1	+
Decrease value by 1	-

Increase value by 10	]
Decrease value by 10	[
Increase value by 100	CTRL +]
Decrease value by 100	CTRL + [
Change patch number	Type patch number and press ENTER
Change patch name	Type patch name and press ENTER
Cycle through a list	ENTER repeatedly
Toggle a value (e.g. Mute)	ENTER
Edit number directly	Type new number and press ENTER
Edit WAV or Patterns values by hand	CTRL + ENTER when in the WAV or Patterns cell
Randomize Cell	CTRL + P
Randomize Column	CTRL + E
Mutate Cell	CTRL + M
Mutate Group/Row	CTRL + G
Mutate Column	CTRL + T

Keyboard Shortcuts - Copy/Cut/Paste/Add/Lists

To	Press
Copy a voice or rule	CTRL + C
Copy a parameter or envelope	CTRL + SHIFT + C
Add a voice or rule	CTRL + A
Add a random voice or rule	CRTL + R
Paste	CTRL + V
Cut a voice or rule	CTRL + X
Delete a voice or rule	CTRL + DEL
Create/ Edit a list	CTRL + L

Keyboard Shortcuts - Saving and Opening Pieces

To	Press
Create a new piece	CTRL + N
Create a new random piece	CTRL + D
Open a piece	CTRL + O
Save a piece	CTRL + S

Keyboard Shortcuts - Play/Record/Mute/Solo/Force

To	Press
Play a piece	SPACEBAR
Stop a piece	SPACEBAR
Fast forward a piece	CTRL + F
Fast rewind a piece	CTRL + B
Quick recording	F5
Mute (toggle)	ENTER key in mute cell
Solo a voice	/
Unsolo	\
Force note to play	CTRL + SPACEBAR
Force note to stop	ALT + SPACEBAR

Keyboard Shortcuts - Pattern Editor

To	Press
Select Tempo Control	CTRL + T
Select Snap Control	CTRL + S
Select Meter Control	CTLR + E
Select Patch Control	ALT + P
Select Bar Length Control	CTRL + B
Select Root Control	CTRL + R
Select Octave Control	CTRL + O
Select Force Frequency Control	CTRL + F
Select MIDI Channel Control	CTRL + H
Select Scale Rule Control	CTRL + L
Select Mute Control	ALT + M
Select Solo Control	ALT + S

Mouse - General Operation

To	Click
Select/toggle a cell	Left mouse button
Select combo box or edit parameter value	Double click on cell with left mouse button
Bring up shortcut menu	Right mouse button

Select help on a parameter	Bring up shortcut menu with right mouse button on any cell and choose Help On This Parameter
Toggle column width between minimum and maximum value	Double click on column header
Increase / decrease column width	Drag column header handle with left mouse button
Move to a position in the piece	Click on the piece marker

Mouse - Changing Values by Clicking

Note The number/text area is a dead zone when using the mouse

To	Click and Click/Hold
Increase value by 1	Left mouse button on RHS of cell
Decrease value by 1	Left mouse button on LHS of cell
Increase value by 10	CTRL + left mouse button on RHS of cell
Decrease value by 10	CTRL + left mouse button on LHS of cell
Increase value by 100	CTRL + SHIFT + left mouse button on RHS of cell
Decrease value by 100	CTRL + SHIFT + left mouse button on LHS of cell
Solo a voice (toggle)	CTRL + left mouse button in mute cell
Edit WAV or Patterns values by hand	CTRL + left mouse in WAV or Patterns cell; or CTRL + ENTER

Mouse - Changing Values - Dragging

To	Click and Click/drag
Increase value with variable speed control	Anywhere in the cell and drag to RHS
Decrease value with variable speed control	Anywhere in the cell and drag to LHS
Increase/ decrease parameter value	Left mouse button on the value and drag double headed slider arrow

Mouse - Envelopes

To	Click
Select entire envelope	Double click on env. with left mouse button
Apply envelope tool to marked envelope area	Mark area with left mouse button and then depress desired tool
Quickly apply envelope tool to envelope selection	Choose envelope tool first, then CTRL + left mouse button and mark the desired area

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