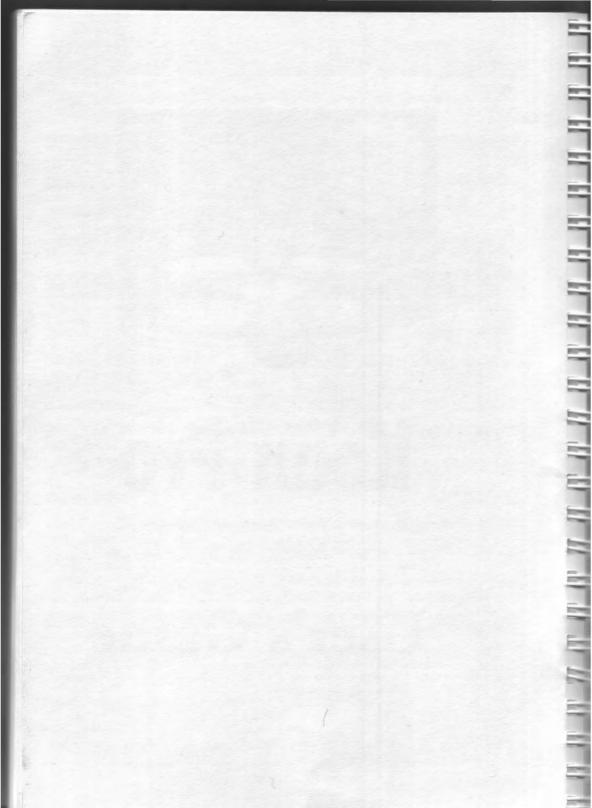


The revolutionary system for creating Ambient Music on your PC

User's Guide



SSEYO® KOAN™ PRO User's Guide



Please make a note of your serial number here:

SSEYO Koan Pro User's Guide

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Credits

This product was developed by: Tim Cole, Peter Cole and John Wilkinson with special thanks to Tim Didymus, Jon Pettigrew, Paul Kirby and Philip Appleby. Thanks also to Joel Cutrara, David Annal, Steve Dixon, Keith Jones, Joe Deller, Erik van 't Woud and Hannu Saukkosaari for their continuous support and encouragement.

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Note: The License Agreement for the copy of the demo version of SSEYO Koan Plus contained within this package is to be found in the online help accompanying the demo version. Also refer to the notes at the end of Chapter 1



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Chapter 1



Introducing SSEYO® Koan™ Pro

Welcome to SSEYO Koan Pro

Thank you for purchasing SSEYO Koan Pro. We have spent a long time perfecting it for you and we hope you enjoy it!

The complete Zentertainment[™] and Music Creativity system

SSEYO Koan Pro is a unique, powerful and easy-to-use Windows music software product that will stimulate your creativity and provide endless hours of fun. SSEYO Koan Pro enables you to create ever-changing music, comprising swirling ambient sounds or more techno, rhythmic material, and it's visual, easy to navigate and does not require a musical keyboard. Through manipulation of on-screen controls you can create you own SSEYO Koan pieces, some free-wheeling, others based around subtly changing 'seed-phrases'. The soothing music these SSEYO Koan pieces can generate can be used as ZentertainmentTM or as the basis for the musical content of any number of music or multimedia projects.

SSEYO Koan Music Engine (SKME)

All pieces created with SSEYO Koan Pro are interpreted and composed in real time by the SSEYO Koan Music Engine (or SKME, pronounced 'SCHEME' or 'SKEEM'), which then sends out MIDI information to your soundcard or sound module. Whenever a piece is played it can be slightly different - like a musical kaleidoscope. SSEYO Koan music can also sound very natural and expressive and each piece tends to have its own character. The SKME has been designed to be flexible and so does not limit itself to pre-defined, style-based music, making it ideal for ambient music of all genres. Also, because a pieces' musical output can be different every time, it provides a higher level of originality and interest than MIDI files, whose output is always the same. A similar situation will one day apply to CD Audio tracks, too, when soundcards that support uploading of samples will proliferate...

'Zentertainment' ... great. What is it?

The music you create with SSEYO Koan Pro is ideally matched to the new forms of software - or 'Zen Ware', - now appearing on the market. We like to use the term Zentertainment for the music created by SSEYO Koan Pro, because as well as creating relaxing and reflective musical material it can also be used to produce exciting techno music. Because the music is always different it requires an intuitive response from you, helping you to 'surf with more freedom and instant appreciation.

Since you can also play along with SSEYO Koan Pro too (you will need a MIDI music keyboard or similar device for this), you can create your own atmospheres and have real fun doing it. You just play -- and the SKME will harmonize with what you are playing, subtly of course. You can even record the resulting 'mix' to a MIDI file for later manipulation or enhancement in a sequencer.

'Koan' itself is a Japanese Zen word which means a puzzle or mystery with no logical solution. There is a famous Koan: if you clap two hands together you get the sound of two hands clapping. What is the sound of one hand clapping? Our music is well suited to this description, as it never repeats itself (unless specifically requested to do so) and so it is never wholly quantifiable: it is like an endless stream.

Where you might hear it....

SSEYO Koan Pro's ambient output (or MIDI file recordings of it) can be heard in any number of situations and in all manner of places, e.g. on your own computer, performing your own pieces, multimedia projects, aurally-enhanced screensavers, film and video tracks, adding spice to presentations or simply used as a relaxing non-intrusive background. But why stop there? You can produce music for malls, elevators, chill-out rooms, raves, hospitals, alternative health centers, greenhouses, your own house party - it fits in anywhere (all subject to our license).

We also have an Application Programming Interface (API) available for the SKME for developers who wish to include it in their own applications. You might therefore hear it included in software games or multimedia titles.

Remember, SSEYO Koan music is not muzak, which is a rendition of a song people already know and love: SSEYO Koan music is always fresh and different. Perhaps the closest analogy to the SSEYO Koan products is that of an Aeolian harp, where the wind 'plucks' its strings in an uncertain and

changing manner, thus producing quite 'ethereal' music. Or think of it the aural equivalent of a glowing, burning log fire. SSEYO Koan music can be ethereal or more down to earth, depending on what you want from it. But you are always in control of the output.

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 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.

SSEYO Koan Pro highlights:

- Nearly 150 parameters to shape your musical pieces
- · Up to 50 separate voices (soundcard dependent)
- · Rhythm templates (.SKT files) and demo pieces provided
- Separate windows for Power, Voice X, Rules and Piece level parameter views
- 5 different voicetypes: Rhythmic, Ambient, Follows, RepeatBar or FixedPattern. 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
- · 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
- · Support for GS/GM patches

- Creative Labs AWE32: Define in your piece and auto-load multiple
 Creative Labs AWE32 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.
- 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).
- · Roland SCC1: Controllers for Attack/Decay/Release
- Import MIDI files & record your SSEYO Koan piece output to a type 0 MIDI 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
- 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 predetermined time (allowing you to create and send out demos of your work, to be played with SSEYO Koan Plus Demo); add pieces notes for others to see when they load your pieces
- Extensive mouse and keyboard support
- · Comprehensive online help system

Music as we know it is changing

Good music has traditionally been thought of as being pre-composed and completely pre-defined. Not so with SSEYO Koan music, which is realized for you as you create it or listen to it, and because of its novel design it can ebb and flow in many beautiful ways.

How 'computer' music was made in the past

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. The result was generally quite reasonable, but fairly limited in expression.

What SSEYO has developed for you

SSEYO Koan Pro can use nearly 150 specially-designed variable controls to influence and produce its music as it composes. The values you input to these controls, some of which are time dependent, are written into a SSEYO Koan 'piece' (SSEYO Koan Design file - .SKD). They determine the notes and melodies generated when you play the piece through the SKME. It is these very controls that influence the creation of music that it smooth, non-intrusive, and natural-sounding. But, the SKME's real power is that it composes and harmonizes everything in real time according to your selections. And because you can still use the 'roll the dice' technique (i.e. for selecting music patterns), you can create pieces which span the complete range - from simple old-style 'roll the dice' constructions to completely free-wheeling, ever-changing atmospheric productions.

Because of the way the SKME has been written, pieces of considerable length can be created in SSEYO Koan Pro (currently up to 9 hours). For instance, you could create three pieces that could each play for eight hours, providing you with round the clock music with appropriate changes to accommodate the time of day.

SSEYO Koan Pro requirements

- 486 DX 33MHz PC (or greater)
- DOS 5.0 or higher
- Mouse
- 5Mb free hard disk space
- 4Mb RAM
- Windows 3.1 or Windows 95
- · 3.5" 1.44Mb floppy drive for installation
- PC soundcard/ MIDI interface with MIDI Mapper support and with a high quality sound synthesizer - Wavetable or LA (Creative Labs SoundFont or Gravis patch compatible preferred)

There are no special display requirements. 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). 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 1: 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 2: SSEYO Koan Pro supports the General MIDI standard, and all instructions within this manual assume your sound card or synth does, too.

Technical Support and registration

We are committed to helping you use SSEYO Koan Pro as best we can. How you get Technical support depends on where you bought the product. Direct telephone or fax support on this product is generally provided from whomever you purchased the product, be that your local dealer, distributor or SSEYO itself. SSEYO will support products directly only when we have received your registration card.

Email support is available to any registered user, irrespective of source of purchase.

Please see the README.TXT file supplied with SSEYO Koan Pro for the up to date list of our distributors.

Before you call (or mail)....

- Serial Number. You will need to quote your serial number, which is to be
 found on your the registration card. Make sure you write this number in
 the space provided inside the front cover of your SSEYO Koan Pro User's
 Guide before you send back your registration card! We do not support
 pirated cnpies.
- Documentation. Double-check the User's Guide and online help. Check
 the Common Questions section. Also check the README file on your
 SSEYO Koan Pro disks where you can find late breaking information that
 did not get included in the manual or online help file. Have the
 documentation at hand and software running when 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

Technical Support via CompuServe:

No matter where you purchased SSEYO Koan Pro, you can get support from us in the SSEYO forum on CompuServe where we will endeavor to answer questions within 24 hours during weekdays. Type "GO SSEYO"; we are in

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the Multimedia A Vendor forum, number 17. You will also be able to find announcements and other files in this area.

Technical Support via the Internet:

You can also get support from us through our WWW page (http://www.sseyo.com); mail us from there. As there is no concept of a forum (apart from Newsgroups) on the Internet - where we could answer common questions that many of you may have - we will post FAQs to our website. We would ask that you read these before mailing us. You will also be able to find other files at our website.

Technical Support by fax:

Fax to Please describe your setup and problem in detail and provide us your name, serial number and fax number. We will reply generally within 24 hours during weekdays.

Technical Support by telephone:

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

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. Insert the SSEYO Koan Pro Disk 1 into your floppy disk drive
- 2 Select Run from the File Meuu of the Program Manager
- 3 Enter the following: drive:\SETUP.EXE where drive is the drive letter of your floppy drive.
- 4 Choose your installation directory (we recommend you use the default KOANPRO) and press Continue.
- 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.

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 on-line help topic.

Setting up SSEYO Koan Pro

You may not need to change any of the settings shown below (available under the Options Setup menu) but you should be aware they are available.



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 Time: Options Setup dialog

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).

Note: If you want the SKME to compose along with your playing (see Fixed Volume Line Input below) you will want to make this value as small as possible, to get the fastest reaction. e.g. 200 ms (0.2 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).

Conductor Timer

Roughly speaking, the Conductor determines what how demanding the SKME is for your PC system resources. The bigger the value of Resolution and Cycle, the smoother the truly Ambient pieces sound 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 pieces.

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 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 Koan will send out MIDI information every Cycle +/- the Resolution.

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.

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.

The SKME will pick up on 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, but only this one is set to maximum volume). The default 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

Choose the instrument patch you want to use.

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.

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.

Koan File Supplementary Search Path

Enter the path(s) here where you want SSEYO Koan Pro to look for any supplementary files used in your pieces. These could be for example SoundFonts from a CD ROM drive, Gravis patches off a network drive or WAV files from another directory to that used by your piece. 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:

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

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 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.

SSEYO Koan Plus Demo

We have included a demo copy of SSEYO Koan Plns with SSEYO Koan Pro (it is in the KPLSDEMO directory, in zipped form, and when unzipped you can run Setup to install it). This means that when you create pieces with SSEYO Koan Pro (and save them as encrypted .SKP pieces) you can then try them out with SSEYO Koan Plus Demo. It's good practice to make sure they are just right before sending them on to others. We encourage you to pass around the demo version of SSEYO Koan Plus and let people hear your pieces,

too. Please refer to the online help for further details on SSEYO Koan Plus Demo.

There is a separate license for the SSEYO Koan Plus Demo version which is substantially similar to the SSEYO Koan Pro license but contains the following main differences (the actual Software License for SSEYO Koan Plus Demo can be seen in its help file).

- THE SSEYO KOAN PLUS DEMO LICENSE IS GRANTED FOR DEMONSTRATION PURPOSES ONLY
- You may distribute the SSEYO Koan Plus Demo software on a public bulletin board or on CD ROM cover disks on various magazines.
- You may not distribute the SSEYO Koan Plus Demo software for any marketing purpose or to your commercial advantage.
- You may not distribute any of the SSEYO Koan files, Albums, MIDI files, SoundFont banks, patches, audio files or audio recordings that come with the SSEYO Koan Pro or SSEYO Koan Plus packages.

The SSEYO Koan Plus Demo version does not allow you to create or save your own alboms (or to create your own install - meaning you will have to ship your pieces/ albums in a separate zipped version to the program). However, you can use a text editor to create/edit the .SKA album format (see online help) to customize an album for your pieces. The format to be adopted is:

SSEYO Koan Album File Version 1.0 PATH AND FILE NAME PATH AND FILE NAME

Album Description Start ALBUM NAME Album Description End Album Notes Start TEXT DESCRIPTION

For example

SSEYO Koan Album File Version 1.0
C:\KOANPLUS\KOANALB\DYNAMO.SKP
C:\KOANPLUS\KOANALB\CYBERSPC.SKP
C:\KOANPLUS\KOANALB\PLASTIC.SKP
C:\KOANPLUS\KOANALB\TURTWOOD.SKP

C:\KOANPLUS\KOANALB\PASSENGR.SKP

AlbumDescriptionStart
MELODIC
AlbumDescriptionEnd
AlbumNotesStart
THE PIECES IN THIS ALBUM ARE SOME OF MY FAVORITES FROM
FROM THE MATERIAL PRODUCED BY TIM COLE AND TIM DIDYMUS.

Make sure you notice and use the return characters (within the album file and at the end of each line) for the album text. Any album you create and redistribute should ideally place the SSEYO Koan pieces, WAV files and SBKs you use in the same directory, namely: C:\KOANPLUS\KOANALB*.*

Please contact us should you wish to order a full copy of SSEYO Koan Plus.

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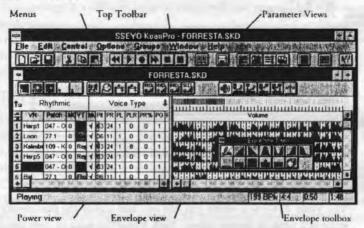
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Chapter 2

SSEYO Koan Pro Workplace

Power View



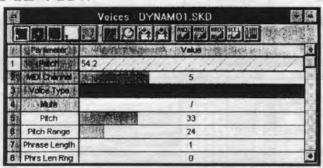
A 'view' is a way of presenting information in SSEYO Koan Pro, namely the values of the parameters used by your piece. The Power View is the main way of seeing and editing your SSEYO Koan piece, and it is supplemented with the Voice X View shown later. In SSEYO Koan Pro there are five parameters that are common to most views; these are Voice Name, Patch, MIDI Channel, Voice Type and Mute (refer to Chapter 8 or online help for information on Patch, MIDI Channel, and Mute. Voice Types will be covered in Chapter 3).

There are a number of buttons in the Power View window, each displaying a different set parameters (the parameter views). The first five buttons show the parameters closely related to the five Voice Types, the next four display parameters like controllers and voice level rules, the middle four are soundcard specific and 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 later in chapter).

For further information on parameters refer to online help or Chapters 8 and 9.

Note: All views support the same keyboard shortcuts and mouse operation as the Power View.

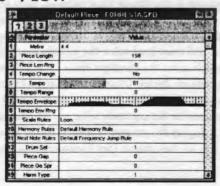
Voice X View



The Voice X View is where you can edit and review the parameters of one voice at a time, as shown above. Each Voice can have its own window. The format displays wider columns so 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 click on the numbered button, e.g. 1, in the first column for the voice whose parameters you want to focus on.

Piece View



The Piece View window (above) is opened by selecting the Piece View button (left) from the top toolbar. There are three piece views, each displaying the values of parameters that control the whole piece in its entirety.

Terminology

Terminology is a difficult subject, but it will save you a lot of time and aid your understanding of SSEYO Koan Pro if you can spare just a couple of minutes to read our brief descriptions below before you press on. There are a number of terms which we use frequently. These are:

Parameter

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 or FixedPattern; 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 Koan composes and therefore when the changes will be heard.

Piece

'Output', 'track', 'song' and 'soundscape' are all terms used to describe the music created by the SKME when it 'plays' the .SKD file (the SSEYO Koan Pro Design file) that you create. We generally use the term 'piece' in the manual and online help to mean the collection of all parameter values used to create the SSEYO Koan music, which are stored in the SKD file. You can can view and edit these parameters through the SSEYO Koan Pro interface. When we refer to 'piece level' parameters, these are parameters that affect the entire piece. Likewise when we refer to 'voice level' parameters these apply to individual voices within a piece.

Each piece contains one or more voices (see below), 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 predetermined ways over the duration of the piece. The notes that each Voice plays are governed by various rules. The piece can either have the extension

.SKP (encrypted SSEYO Koan Play file, see online help), .SKD (SSEYO Koan Pro Design file) or .SKT (SSEYO Koan Template file). A SKT file has the same file format as a SKD file, and so they both look the same in SSEYO Koan Pro, but it has a different extension to identify it as a template file for your convenience.

Voice

A voice in SSEYO Koan Pro terminology is a 'player' of a patch/instrument, and each player is assigned a patch/instrument. You can define up to 50 voices but the number that can play at any given time is governed by your sound card or synthesizer's capability and the MIDI Mapper (which allows up to 16 simultaneous channels to play for Windows 3.1). 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.

Envelope

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 (see later in chapter). Some parameters with envelopes are:

Volume Velocity Velocity Change Tempo Pan (Stereo position) Velocity Range Velocity Change Range 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 the piece has been playing, where the beginning respresents 0% and the end 100% of the piece length.

Navigation

There are many ways to move around in SSEYO Koan Pro, all of them obvious and intuitive. Both advanced keyboard and mouse support are integral

to SSEYO Koan Pro. Please also refer to the rear cover, Appendix or online help for keyboard and mouse shortcuts.

Moving around

Use your keyboard 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 patterns and WAV file names by keyboard/mouse

Using CTRL+ENTER (or CTRL+SHIFT with the mouse) on the Pattern or WAV cells will allow you to enter/edit the text manually. Normally you will use the Pattern Editor or the WAV dialog.

Shortcut menus

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

Envelopes

See later in the chapter for how to call these up.

Customization of row/column sizing

Double clicking on a column header (top most cell in a column) will alternate between minimising 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 that follows 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 rowback to the default height by pressing the button at the top of the first column.

Parameter Views

(parameters listed in alphabetical order)



View 1 - Rhythmic Voice and general parameters

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

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

3

View 2 - Ambient Voice, patch changing and 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 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



View 3 - Follows 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 Named Voice Follow Percent
Follow Shift/Interval
Follow Shift/Interval Range
Follow Strategy



View 4 - RepeatBar Voice 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 Repeat Bar History Range Repeat Bars Percent Repeat For Bars Range Repeat Specific Voice



View 5 - FixedPattern Voice 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 Mutation Factor Mutate No. Bars Mutate No. Bars Range Mutation of Rhythm Patterns Pattern Bars %



View 6 - Voice Rules and other general parameters

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

Harmonize?

Harmony Rules Harmony Duration

MIDI Channel Reallocation

MIDI Channel Sharing

Next Note Rules Rhythms Rules

Scale Rules



View 7 - Controllers

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

Chorus (93)

Damper/Hold (64)

Damper Release

Expression (11)

Modulation (1)

Portamento (65)

Reverb (91)

Soft (67)

Sostenuto (66)

The parameter in parentheses () indicates the corresponding MIDI controller number



View 8 - Micro Note and Micro Pitch parameters

This parameter group view displays the first group of Micro controller parameters. These allow you to vary various aspects of the patches sound at a 'micro' level, i.e. very subtle real time changes:

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

Micro Pitch Change Micro Pitch Range Micro Pitch Update Micro Pitch Update Range Pitch Bend Offset Pitch Bend Sensitivity



View 9 - Micro Modulation and Micro Volume

parameters

This parameter group view displays the second group of Micro controller parameters. These allow you to vary various aspects of the patches sound at a 'micro' level, i.e. very subtle real time changes:

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 10 - AWE32 Controllers - LFO1 and LFO2

This parameter group view displays the first set of Creative Labs AWE32 EMU8000 specific controllers:

AWE32 LFO 1 Filter Cutoff AWE32 LFO 1 Frequency AWE32 LFO 1 Pitch Shift AWE32 LFO 1 Start Delay

AWE32 LFO 1 Volume Shift AWE32 LFO 2 Frequency AWE32 LFO 2 Pitch Shift AWE32 LFO 2 Start Delay



View 11 - AWE32 Controllers (Envelope 1)

This parameter group view displays the second set of Creative Labs AWE32 EMU8000 specific controllers:

AWE32 Envelope 1 Attack AWE32 Envelope 1 Decay AWE32 Envelope 1 Delay AWE32 Envelope 1 Filter Cutoff

AWE32 Envelope 1 Hold AWE32 Envelope 1 Pitch Shift AWE32 Envelope 1 Release AWE32 Envelope 1 Sustain



View 12 - AWE32 Controllers (Envelope 2 and sundry Pitch parameters)

This parameter group view displays the third set of Creative Labs AWE32 EMU8000 specific controllers:

AWE32 Envelope 2 Attack AWE32 Envelope 2 Decay AWE32 Envelope 2 Delay AWE32 Envelope 2 Hold AWE32 Envelope 2 Release

AWE32 Envelope 2 Sustain AWE32 Pitch Filter Cutoff AWE32 Pitch Initial AWE32 Pitch Resonance



View 13 - SCC1 Controllers

This parameter group view displays Roland SCC1 specific controllers:

SCC1 Attack

SCC1 Decay

SCC1 Release



View - Piece

The piece parameters affect the whole piece and so have their own window. You can toggle between each of the 3 views by pressing the numbered buttons at the top of the window.

View 1

This parameter group 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

Piece Gap Range

Piece Length

Piece Length Range

Tempo

Tempo Change?

Tempo Envelope Tempo Envelope Range

Tempo Range

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 Roots

Piece Root Bars

Piece Root Bars Range

Piece Root Change

Piece Root Envelope

Piece Semitone Shift

Piece Semitone Shift Range

Voice

View 3

This parameter group view displays advanced parameters you have at your disposal for loading SoundFont compatible banks or Gravis Ultrasound patches and also high-level AWE32 specific effects, 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):

AWE32 Chorus Variation

AWE32 Effect Type AWE32 Reverb Variation AWE32 SoundFont Bank

&SBK Name

Gravis Drum Patch Bank Gravis Melodic Patch Bank

Envelope Views

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

(Volume



Velocity Velocity



Velocity Change



Velocity Range



Velocity Change Range



Pan (10)

Views - Rules



Scale Rule



Harmony Rule



Next Note Rule



Rhythm Rule

These icons call up the above Rules windows (refer to Chapter 5 for information on how these work)

Envelope floating toolbar

The envelope toolbar is activated by pressing the above button, located on the top toolbar.



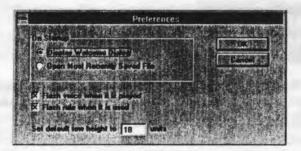
From the toolbar select the tool that you require with the mouse, highlight a selection of the envelope with the left mouse button and then depress one of the tools (refer to online help for further details).

Piece Details



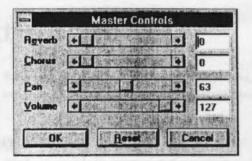
The Piece Details dialog is called up when you press the Piece Details button on the top toolbar or select Groups Piece Details from the menu. It allows you to enter notes about your piece and to insert copyright information. When you save the file as a SSEYO Koan Play file (SKP) this information is encrypted in the piece as well. To save Play files, select File Save Play file from the menu. Refer to Chapter 8 for more information on Piece Details or online help for more information on Play files.

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. Refer to online help for further information.

Master Controls



The Master Controls dialog shows the overall settings used by SSEYO Koan Pro, and this information is not saved in the piece. Here you define your overall chorus and reverb settings (and these values add to any defined in your pieces, so you need to use these sparingly or set them to zero), the overall pan for your soundcard and the master volume control (which is like a master fader, so when it is at maximum your piece will play at its normal, full volume). Refer to online help for further information.

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Master Controls



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User Preferences



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Chapter 3

Getting Started

Before we du anything else, let's get you playing one of the demo pieces so you can see and hear what we have been talking about so far.

Demo Pieces

We have provided a number of demo pieces in .SKD format so you can have some idea of what you might be able to create with SSEYO Koan Pro. You can look at them to see how they have been put together and pick up a few tips for your own masterpieces. Some of these pieces are used in the Quick Tutorial, where you are shown how to create them from scratch. Feel free to copy sections to any new pieces, as you wish. To see what each piece shows or demonstrates, look at the Piece Details. We suggest you try out Dynamo, Shock of Plastic (PLASTIC), Turtle Wood (TURTLE) and Passenger (PASSENG)

There are also a few demo .SKP pieces supplied with the SSEYO Koan Plus Demo software accompanying SSEYO Koan Pro. You are encouraged to ship the SSEYO Koan Plus Demo package together with your own pieces to anyone who may be interested (provided it is not for commercial gain - see the software license with the Demo version). You may, of course, re-distribute your own pieces for commercial gain.

Quick Start - Playing the Demo pieces

When you first load up a SSEYO Koan Pro session you will be presented with the splash screen and a dialog asking you to choose to Use a Template (to create a new piece) or to Open a File (SSEYO Koan piece - SKD file). In the first instance we will want to open an existing piece, so select the Open File button (or follow the step below to Open a piece).

Opening/playing/closing the Demo pieces



Open a piece

Press the File open button or select File Open from the menu. Try opening one of the demo pieces and playing it. These will be in the SKD subdirectory under the main directory where you installed 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 Forward 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 Setting up SSEYO Koan Pro in Chapter 1) 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



Stop a piece

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



Record to MIDI file

Either press the Record button, select Control Record from the menu or press F5 (see Chapter 6 for more information on MIDI file recording).



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 a encrypted 'Play' file (.SKP) has been created the comments are permanently encrypted within that file and are Read Only. This file can then only be played and viewed by SSEYO Koan Plus. 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 online help for more information on Play files.

Muting and Soloing voices

To mute a voice, click your left hand mouse button in the voices' corresponding Mute cell: 'V' 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.

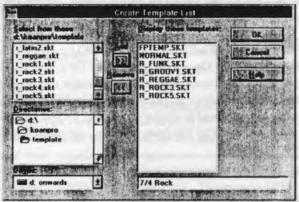
To Solo a voice, depress the CTRL key and select the mute cell with the left hand mouse button. This will mute every other voice in the piece, effectively 'solning' the voice. To de-mute all the voices use the CTRL+ LHS mouse button combination again (alternatively use the '' or 'keys in the mute cell).

Forcing a voice to play

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.

Templates



Template List Dialog - Selected from File, Create Template List menu item

A number of template files are provided 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 and you can select which templates you want to see files, as as the dialog above illustrates. All standard templates can be found in the TEMPLATE directory but you can save yours anywhere.

Rhythmic templates are generally identified in the file name as R_XXXXXX.SKT, where XXXXXXX 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.

To use a Template simply select File New and choose one from the list presented (or you can modify thist list for next time). 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.

Creating a piece - Quick Start

Tip SSEYO Koan Pro uses the left and right mouse buttons in a way consistent with other Windows applications. Try using the right mouse button to call up the shortcut menu.

With SSEYO Koan Pro it is easy to create simple ambient pieces in a relatively short time by using the templates supplied and adjusting a few basic parameter and envelope settings. Creating more advanced pieces will require some further experimentation with the wealth of parameters available, described in detail in chapters 8 and 9 and also in the nnline help.

This section is meant to be a very brief introduction on how to create a piece; for further in-depth instructions please refer to the Tutorial section. In addition, refer also to the online Quick Steps information and keyboard and mouse shurtcuts.

How pieces work - Overview

Each piece contains a number of voices (shown in rows) 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 13 '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 6 '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 (see later in chapter) 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) 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 new piece

- Either press the File New button, select File New from the menu or select CTRL+N
- Select a Template from the selection presented, upon which to base your piece, e.g. NORMAL.SKT
- 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

Changing some voice level parameters

- Type in the name you want to call the voice in the Voice Name column, e.g. First Pad, 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 which view you are in is shown on the top left hand side of the Power view.
- Change the Patch by typing in either the patch name (e.g. Pad 2) or the patch number (e.g. 92) and press the Enter key
- 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
- Set the Voice Type to e.g. Rhythmic by selecting the Voice Type cell and press the Enter key to toggle between the 5 types Voice Types (or press 'R')
- 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 'l' key
 and unsolo it with the 'l' key

- Change the minimum pitch of the voice by increasing or decreasing the Pitch cell value (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
- 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)
- Change the minimum length of the Phrase played by adjusting the Phrase Length parameter and set its range with the Phrase Length Range parameter
- Set the likelihood of a Phrase note being a rest with the Phrase Rest % parameter
- Set the gaps between phrases with the Phrase Gaps and Phrase Gaps Range parameter

Changing envelope values

- 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
- Select the Envelope Toolbar button from the top toolbar to display the toolbox and select the Freehand tool (a pencil) or select Edit Envelope Freehand from the menu. 'Draw' on the envelope with the left mouse button. This effects how the volume of the voice will behave over the time the piece plays

Moving between views and selecting the Rules used by a voice

- To change parameter views select one of the 13 view icons or press CTRL+1 to 0 (for views 1 to 10) or CTRL+SHIFT+1 to 3 (for views 11 to 13). For this example you will need to select View 6 from the toolbar or press CTRL+6
- Set the Scale Rule used by the voice 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 (in the Scale Rules window,
 selectable off the top toolbar, you can make you own Scale rules or edit
 those provided as defaults)
- Set the Rhythm rule in a similar way; this determines with what duration notes will be played
- 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)

 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

- To select the Piece view choose Group Piece from the menu bar or press the Piece icon on the top toolhar
- Set the Tempo parameter to change the tempo of the piece
- Set the Meter parameter to the metro you want for your piece

Adding/copying/pasting and deleting Voices

- Select a cell in any blank row and choose Edit Add from the menu, or click with the right mouse button and select Add. A new voice will be added
- 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
- To paste a copied voice select any blank cell and choose Edit Paste from the menu, CTRL+V or click with the right mouse button and select Paste

- 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
- 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

- Change the Voice Type to FixedPattern
- Initially set the Patterns Use % parameter to 100% (so the pattern will play all the time)
- Select the Pattern Editor from the top toolhar, or press the Enter button when in the Patterns cell in Parameter View 5
- Use your left and right mouse buttons to add notes to the 'grid' and then
 press Start to hear your pattern. Press Apply to save it to the piece. Please
 refer to Chapter 7 Pattern Editor for more information

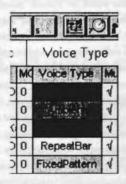
Adding AWE32 SoundFont compatible banks or Gravis patches to your piece (only audible if you have the appropriate soundcard)

 Select the Piece 3 view (press the Piece view button on the top toolbar or select Groups Piece from the menu)

- Sclect the AWE32 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 (refer to Chapter 9 for more information)
- 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
- Select one of the parameter views and select the Patch cell of the voice you want
- Set the patch and bank number by typing the value in and pressing enter,
 e.g. 12.1 and press play

Voice Types

In controlling how each voice plays, and in addition to the rules, there are 5 Voice Types.



The Voice Type is one of the parameters available for you to select. The voice can have only one Voice Type defined at a time, 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 (see Chapter 8).

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 notes played will still follow the Scale, Harmony and Next Note rules (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 (see Chapter 8).

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 Follow parameters. 3 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 60th 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. It is important to note that one Follows voice cannot follow another Follows voice (i.e. if Voice C were to follow Voice B which in turn follows Voice A). See Follow Named Voice and Follow Strategy (see Chapter 8).

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 Specific Voice, Repeat Bar History and Repeat Bars % (see Chapter 8).

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

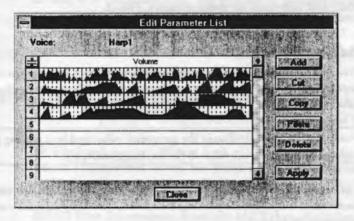
Pattern Editor and your mouse or you can use it to import phrases from existing MIDI files. The FixedPattern Voice Type is very powerful and is often used to create drum patterns or other types of pieces where you want to use a pre-defined melodic theme. Patterns are based on the current Scale Rule intervals so you can change the melodies simply by changing the Scale rule used by the voice. 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

Further information on this is supplied under the Parameters Voice Type. See Pattern Bars % and Patterns (see Chapter 8).

Lists - Adding entries and modifying



Lists - overview

Lists and multiple instrument

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.

Note: 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 9 times out of 10. Do this by having 9 occurrences of this value and one occurrence of another.

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).

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 usedis 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). Please see Chapter 8 -Parameter Reference for mure information.

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.

SSEYO Koan Pro composes music one MIDI channel at a time, and does not support chords within a voice, meaning that for voices with different instruments, it can only play 16 at once (and thus 16 concurrent notes). However, when sharing the same instrument, SSEYO Koan Pro allows you to specify a number of voices up to the polyphony limit of your card (e.g. 24 on SCC1 or 32 on the AWE32) to share the same MIDI channel/part. 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. ynu 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.

For SBK drum patches refer to the Patch parameter at the beginning of Chapter 8.

MASTER.SKT

The MASTER.SKT file is a special file that resides in the same directory as the KOAN.DLL file. 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!

Chapter 4

Tutorials

Creating and Editing pieces

Note: To see how to get started and check out the demos supplied, please refer to the Getting Started and Creating a piece - Quick Start sections in Chapter 3.

It is easy to create your own pieces in a few steps. These step-by-step tutorials will take you through the creation of three of the pieces supplied with the program, at an increasing level of complexity, and on a purely practical level. They are not full of detailed explanation and discussion because they are meant more to illustrate the kind of process you would go through to create a piece, and to familiarise you with that process. As such they do not create the final piece down to the last detail, but more give you a framework so you can try your own experiments. That said, we do recommend you try to work through all examples and they should not take you long to complete. It is by looking at the demo pieces to see how other people have done things that you will probably make the fastest progress. There is no one approach to creating a piece in SSEYO Koan Pro, and it is often your 'inspired' guesses that will allow you to produce the best pieces!

The Quick Tutorials are not a substitute for reading the introduction and associated help text provided (we suggest the order they are laid out on the online Help Contents page) We do recommend you read these sections to gain an insight into the various terms we use and an overview of the product.

Quick Tutorial 1

Creating the piece DRIFTER1

(this should take you approximately 15 minutes)

New items covered in this tutorial:

- Creating a new piece from a template
- Selecting a view
- Naming your piece and adding your personal information

- Saving your piece
- · Changing a parameter
- Naming/Renaming and Copying a voice
- · Modifying an envelope with the Envelope tools

Note 1 DRIFTER1 comes as a demo file: save your version to DRIFTR1A

1 Creating a new piece

1.1 Select File New from the menu or press the File New Button. You will be presented with the Use Template dialog from which you choose a template, in this case the NORMAL template.

2 Selecting a parameter view

2.1 Select View 1 by clicking on the first of the 13 parameter view buttons or press CTRL+1 when in this side of the screen. The Rhythmic view (View 1) can be the most often used view.

3 Giving your piece a name and some details

- 3.1 Click on the Piece Details button on the toolbar.
- 3.2 Type in Drifter 1A in the Piece field, and add your name to the Author field and then add the copyright notice, e.g. Copyright (c) 1995 Your Company. All rights reserved, to the copyright field.

- 3.3 Check the appropriate 'Author' choices for the 2 selections presented. More information on the Piece Details parameter is provided in Chapter 8.
- 3.4 In the Piece Notes box just add a few lines of text to describe what you are hoping to do; you can always come back to this later. Remember to depress at the same time both the Control and Enter keys when finishing a line.

4 Saving your piece as DRIFTR1A

- 4.1 Select File Save from the menu or click on the File Save button.
- 4.2 You will be asked for a name for your piece, type in DRIFTR1A.SKD
- 4.3 Tip: Remember to regularly save changes you have made to any piece you are creating/editing.

5 Naming/Renaming and Copying a voice

- 5.1 Select the Voice Name cell which should be "Voice 1".
- 5.2 Type in the Name Drifter 1 and press Enter.
- 5.3 To copy this voice select CTRL+C or Edit Copy Voice and then paste it back to the piece with CTRL+V or Edit Paste.

6 Changing a parameter (e.g. Portamento - you will only hear the change if your soundcard supports the particular controller)

6.1 Select the View 7 (the Controllers view) button on the toolbar.

6.2 Select one of the Portamento (or Reverb if your card does not support portamento) parameter cells and adjust the value of each one to be 64 if it is not already.

6.4 Tip: When you play a SSEYO Koan Piece any changes you make will be effected as soon as the SKME can accommodate them (see Chapter 1 - Introducing SSEYO Koan Pro and the Setup Options section for discussion).

7 Modifying an envelope with the Envelope tools

5.4

5.2 again.

7.1 Select the Volume envelope icon from the toolbar.

7.2 Open the Envelope toolbox (by pressing the Envelope button on the top toolbar) and select the tool you want to apply to the envelope, say the Linear Ramp Up tool (you can do this from the Edit Envelopes menu or using the mouse).

7.3 Select an area of the volume envelope with the left mouse button, by the standard click and drag process. Then press the tool you want to apply which will apply the envelope tool to the area you have selected. Modify both volume envelopes to be similar to those in the original DRIFTER1 demo piece.

8 Selecting the Scale rule each voice will use

8.1 Each Voice can use a particular Scale rule (allowing greater musical flexibility) or it can use its own rule. Select View 6 (the Rules parameter view) by pressing the View 6 button.

8.2 Select one of the Scale Rule parameter cells and, for each voice, Drifter 1 and Drifter 2, select the Major scale from the combo box if not already selected.

9 Playing your piece DRIFTR1A

9.1 Simply press the Play hutton, the spacebar or select Control Play from the menu and you are away playing your first SSEYO Koan ambient piece! It is as easy as that. Don't forget to save it if you want to keep it!

Quick Tutorial 2

Creating the piece PASSENGER

(this should take you no more than 20 minutes)

New items covered in this tutorial:

- Changing Patches/instruments
- · Using Fixed Pattern and Ambient Voice Types
- Creating and using lists
- Using the Patch Bars Change parameter
- Using the Mutation parameter
- · Changing the rules used by a voice
- · Adding Sustain (Damper/Hold) (for cards that support Sustain)
- · For those with AWE32 soundcards, adding a SoundFont Bank

Note: PASSENGER is supplied as already completed demo file, PASSENGR.SKD

Note: Remember to regularly save your piece, save it as PASSENG1.SKD and compare with PASSENGR.SKD

Passenger is a piece that makes use of the mutation of patterns and it allows the SKME to take a free-wheeling approach to composition.

1 Opening a FixedPattern template and changing Voice Types First, we want to create a number of voices with 'blank' patterns, all 1 bar long, and a couple of Ambient voices to provide a mellow drifting feel

- 1.1 Select File New and open the Fixed Pattern Template.
- 1.2 Create 3 new voices by copying Voice 1 and pasting it.
- 1.3 Rename the voices to be Eguitar/Bass, Various, Pads and Drone.
- 1.4 Set the Pitches to be 40, 50 and 40 for the first three and 30 for the last, and set the Pitch Ranges to be 40, 30 and 40 for the first three and 25 for the last.
- 1.5 Change the Voice Type of the Pads and Drones voices to Ambient by selecting the Voice Type cell and toggling through those available by pressing the Enter key.

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2 Changing patches and changing the MIDI Channel

Next we need to select the patches and set up the MIDI channels

- 2.1 Select the Patch cell for the first voice and double click on the cell (or arrow to it and press Enter).
- 2.2 From the drop down combo list select 025-Acoustic Guitar.
- 2.3 Change the patches for the other voices to be Various 005-Rhodes Piano; Pads - 093-Pad 5 (bowed); Drone - 076-Pan Flute.
- 2.4 Select the MIDI Channel cell for the first voice and set it to 1. Then set the others to 2,3 and 4. If you have them all set to 0 the SKME will allocate them a MIDI channel automatically, but you will never know what it is.

3 Applying a Mutation factor to a fixed pattern

We need to add mutation to the blank pattern to allaw it to mutate and seed itself, and we need to say how often it will mutate.

- 3.1 Select View 5, the Fixed Pattern View.
- 3.2 Select the Mutation Factor cell (it has the abbreviation MF when you have a cell highlighted you can see the full name of parameter in the wiodow above the Power View).
- 3.3 For all 4 voices change the Mutation factor to be 150 (meaning that each note will have a 15% chance of mutating), and set the Mutate No. Bars to 2 for all 4 voices (meaning that the 1 bar phrase will only mutate every 2 bars).

4 Changing the Phrase Length and Phrase Gaps

If we were to play the piece now, we would find no nice long phrases and it would be a bit discordant (see 7.2), so we need to define how long these will be

4.1 Select View 1, the Rhythmic View.

4.2 Change the Phrase Length, Phrase Length Range, Phrase Gaps and Phrase Gap Rests to be 8,4,1 and 5 respectively for the first three voices. If you play the piece now you will hear it is slowly starting to take shape, but is a bit discordant.

5 Adding some controller effects: Damper/Hold to prolong some notes, Reverb and Chorus

For ambient pieces, effects are generally very important

- 5.1 Select View 7, the Controllers View.
- 5.2 Select the Damper/Hold parameter and change this to 65 for the first 2 voices.
- 5.3 Select the Reverb parameter and set these to 84, 124, 124 and 65.
- 5.4 Select the Chorus parameter and set these to 64 for the first 3 voices.

6 Setting up the Ambient voices

We need to choose how the Ambient voices will play

- 6.1 Select View 2, the Ambient view.
- 6.2 For the Pads voice, set the Ambient Duration and Ambient Duration Range to 4 seconds (note this is 4 seconds and not 4 milliseconds you can change the Ambient Units to be Full seconds, Milliseconds or 60ths of a Beat).
- 6.3 For the Drone voice, set the Ambient Duration, Ambient Duration Range, Ambient Gap and Ambient Gap Range to 18, 0 4 and 12 seconds respectively.

7 Setting up the harmonization and rhythm rules

When a voice mutates, it uses the rules to decide which notes to play

- 7.1 Select View 6, the Rules view.
- 7.2 Set the Harmonize? value to Yes for all voices, allowing the voices to harmonize with each other.
- 7.3 To set the Rhythm rule used by each voice double click on the Rhythm rule cell and from the drop down combo change the first two voices to use the Semiquavers Only rule.

8 Changing the Piece tempo

There are a number of piece level parameters that affect the whole piece

- 8.1 Select and press the Piece icon on the top toolbar.
- 8.2 In Piece view 1, change the Tempo parameter to 89.
- 8.3 Select the Scale rule to be Dorian.
- 8.4 Select the Piece Length to be 900 seconds (15 minutes).

9 Using the Patch Bars Change parameter and setting up Lists

Patch changing is very important and provides a great source of sound palette variety

- 9.1 Select View 2, the Ambient view.
- 9.2 For the first 3 voices, change the Patch Change Bars and Patch Change Bars Range values to be 8 and 4 respectively.
- 9.3 Select the patch cell for the Eguitar/Bass voice and press CTRL+L to open the list dialog. Add 2 more voices (making a total of 3) and change these so that they are 25,26 and 27.
- 9.4 Select the Various voice and create a list containing 5,25 and 93 and for the Pads voice create a list containing 90,93 and 93.
- 9.5 You could now play this piece and it will have a reasonable closeness to Passenger. However, if you have and AWE32 soundcard, see the next section to add a few more touches.

10 Adding AWE32 touches, including SoundFont banks

The use of real samples is one of the most striking things about SSEYO Koan music.

- 10.1 Select View 12, the AWE32 controllers view.
- 10.2 Select the Pitch Filter cutoff and set this to 117 for the Various voice and to 99 for the pads voice.
- 10.3 Select the Piece View from the toolbar icon and choose View 3.
- 10.4 Select the AWE32 SoundFont Bank Name parameter and type in 1 PASSENGR.SBK
- 10.5 Make sure the SKME will look in the right directory by selecting Options Setup from the menu, and in the Koan Supplementary File Path add the directory to the SBK, probably C:\KOANPRO\SKD
- 10.6 Select the patch for the Drone voice and make this 76.1 If you now play the piece the SKME will load the SBK and the patch assigned to 76.1.

Quick Tutorial 3

Creating the piece DYNAMO

(this should take you no more than 30 minutes)

New items covered in this tutorial:

- Using a Rhythm template
- Importing MIDI phrases and using parterns
- Using the RepeatBar Voice Type
- Using a drum loop
- · Changing the rules used by a voice
- Changing envelopes

Note: DYNAMO is supplied as already completed demo file, DYNAMO.SKD

Note: Remember to regularly save your piece, save it as DYNAMO1.SKD and compare with DYNAMO.SKD

Dynamo is a fairly complex piece that makes extensive use SoundFonts and a drum loop. It is a great piece for scratch mixing and uses the Follows and RepeatBar voices to come up with interesting melodic developments. This

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tutorial will take you through some of the steps to create a rough version. You can use the Dynamo SoundFont bank that comes with SSEYO Koan Pro. Before you start the piece it would be good to look at it for a few minutes in Creative Labs' Vienna, to familiarise yourself with the samples it contains.

1 Using a Rhythm template and setting up the general layout of the piece and adding the SoundFont Bank sound 'palette'

First, we want to open a rhythm template and add a selection of voices.

- 1.1 Select File New and open the Rock 4 4/4 template. Add another 9 voices by selecting Edit Add from the menu.
- 1.2 Make 5 of these voices Fixed Pattern, 2 RepeatBar and 2 Ambient by toggling the Voice Type cell.
- 1.3 Name the 5 new Fixed Pattern voices, Flute, Moog, Harsh, Drumloop and Talk; name the two RepeatBar voices Flumpy Bass and Flumpy Bass 1; name the two Ambient voices Blips and Aaaah.
- 1.4 Add the SoundFont bank in the Piece view, view 3, as in Tutorial 2. Set up the AWE32 SoundFont Bank Name to be 2 DYNAM2.SBK This means the SBK will load up into bank 2.
- 1.5 Set up some patches for the voices; we are going to use the following: Flute 77.2, Moog 39.2, Harsh 95.2, Drumloop D127.2, Talk 54.2, Flumpy bass 88.2, Flumpy bass 1 88.2, Blips 95.2, Aaah 53.2.

- 1.6 Set up the MIDI Channel for all the drum voices (including Drumloop) to be 10, and then give every other voice its own MIDI channel, other than 10.
- 1.7 It is now important to set up some Pitch and Pitch Ranges for the voices: Flute 50 and 11; Moog 20 and 11; Harsh 30 and 11; Drumloop 30 and 11; Talk 50 and 11; Flumpy bass 50 and 11; Flumpy bass 1 70 and 32; Blips 40 and 24; Aaah 60 and 24

2 Setting up the Ambient voices

We want to allow the Ambient voices to have a restricted Phrase length so they don't play too many notes in a phrase.

- 2.1 Select View 2, the Ambient view
- 2.2 Set the Phrase parameters as follows: Blips: Phrase Length 1, Phrase Length Range 3, Phrase Gaps 1, Phrase Gaps Range 6; Aaah: Phrase Length 1, Phrase Length Range 0, Phrase Gaps 1, Phrase Gaps Range 5
- 2.3 Set the Ambient parameters as follows: Blips: Ambient Duration 1 sec, Ambient Duration Range 0 secs, Ambient Gap 0 secs, Ambient Gap Range 3 secs; Aaah: Ambient Duration 1 sec, Ambient Duration Range 1 sec, Ambient Gap 4 secs, Ambient Gap Range 8 secs.

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3 Setting up the RepeatBar voices

The RepeatBar voices will generate some melodic interest by bringing earlier phrases back to the piece and also to occasionally bring in some new material of their own.

- 3.1 Select View 4, the RepeatBar view
- 3.2 Set the Bars Repeat % for both Flumpy bass and Flumpy bass 1 to 95%. By not defining which voice they will repeat (in Repeat Specific Voice) it is entirely up to chance as to which voice they will 'latch on to' when the piece starts.

4 Adding some patterns to the FixedPattern voices and mutating them Dynamo works as a piece because it takes some base patterns around which everything else revolves. Some of these patterns are allowed to mutate. You could try using you own patterns to see what happens!!

4.1 Select View 5, the Patterns view

- 4.2 We want to get the drum loop going first, so we need to put in a trigger for this. Open up the Pattern Editor by clicking the button in the Pattern cell. You want to select a 2 bar pattern and put in 2 long notes. of 1 bar each. To add these long notes depress the Shift key and click your mouse in the first square of the first bar for the D127 drum (displayed on the left) and then drag it to the right until you have a white square followed by some blue squares that last one whole bar. Do the same for the second bar. Press the Apply button to save your pattern in the piece and then press OK to close the dialog. Play the piece to hear the drum loop playing (the Piece tempo should be set to 115 if it is not already).
- 4.3 We now wish to add the Moog phrase, and we are going to import it from a MIDI file. Open the Pattern Editor from the Moog voice and set the Root to be E - this is the root we want for the piece.
- 4.4 Select the Scale Rule to be Phyrgian and then press the Import button. Look for the file MOOG.MID in the SKD directory, select it and press enter.
- 4.5 In the Import MIDI file dialog we need to decide how we want the intervals mapped for the melody, and we are going to choose Phyrgian for the Scale rule.
- 4.6 Press the Extract Pattern button and the pattern string will be shown in the box at the bottom. Now press the Apply button and the pattern will be written to the Pattern Editor. Once there, press the Apply button and close the dialog.
- 4.7 We need to do the same process for the Harsh and Flute patterns. For the Harsh voice, import the HARSH1.MID file and use the Phyrgian scale for the import and set the Use Root parameter to be C3. Once you have done this, select the combo box next to the '1 of 1' text and choose the number 2, to add another pattern to the pattern group (a

group of patterns from which the voice can select). Import the HARSH2.MID file with the same values. You will now have 2 patterns for this voice. For the Flute voice do exactly the same and import the FLUTE.MID file. The best way to use the Pattern Editor is to drag your mouse at speed over the 'grid' to come up with your own interesting patterns.

4.8 Now we need to allow the patterns to mutate, so set up the Mutation Factor, Mutate No Bars and Mutate No Bars Range parameters as follows:

Flute: 25, 4, 2 Moog: 12, 8, 4 Talk: 200,1, 0

4.9 We also need to choose the Rhythm and other rules. Rhythm rule: Flumpy bass - Middle; Flumpy bass 1 - Fast Plain; Blips - Middle. You will notice that the original Dynamo uses special Scale rules for different voices. It is easy for you to change the rules, they can be whatever you want.

5 Changing the velocity envelopes

For a piece that uses a lot of pattern information you will not want to have too much variation in the velocities used by the voices (and hence apparent volume). The default values are too high for this piece

- 5.1 Select the Velocity view, above the envelopes
- 5.2 Use the 'nudge down' envelope to bring down the values for every voice. Do this for the Velocity Range, Velocity Change and Velocity Change Range envelopes as well.

6 What to do next....

Koan pieces are works of art, so just like a work of art it is impossible to detail every last nuance, even if you wanted to! So now you are on your own. Look at the original and play around with your piece. Have fun!

6.1 Some further areas to look at are:
Add lists of patches for some of the voices
Set up the Patch Change parameters for these voices
Thin out the volume envelopes so that difference voices play at different times. This is entirely down to your judgement, but it is often what is left out that creates the most stunning material.

Chapter 5

Music Rules







Harmony



Next Note



Rhythm

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 level, 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. 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. E.g. if a 5th is played then the 5th 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 instance) 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 nutput. However, whilst any number of rules can be assigned to each piece, it is generally best to start with simplicity!

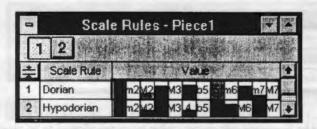
Note 1: The values for the rules used in each template will generally differ from template to template.

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.

Scale rules



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):

Ove 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 (refer to parameters)

Harmony rules



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.

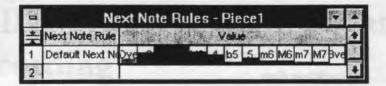
The rule gives the relative probability of choosing notes a given number of semitones different from each and every other currently playing note. The first 'bar' of the rule is the relative probability of playing a note which is 0 semitones (i.e. the 'root') different from another currently playing note (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):

Ove 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 prohabilities created by the Scale rule, and then for every OTHER currently playing note, tun through all possible notes relative to the CURRENT note and choose the most appropriate one. When there are 2 voices playing there can be only one harmony between them, so only one harmony value will flash. 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.

Next Note rules



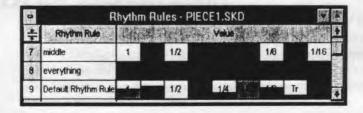
The Next Note rule determines for each Voice how far away (in semitones) from the last note the next note to played should be. The first 'bar' is the relative probability of shifting 0 semitones, the second bar is the relative probability of shifting plus or minus 1 semitones etc. I.E. if all the highest 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 I 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.

Rhythm tules



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):

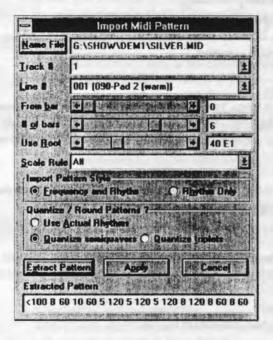
1 1/2. 1/2 1/4. 1/4 1/8. 1/8 Tr 1/16

- 1 Whole Note
- 1/2. Dotted half note/Dotted Minim
- 1/2 Half note/Minim
- 1/4. Dotted quarter note/Dotted Crotchet
- 1/4 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.

MIDI file Import/Export and recording



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. 54 F#2

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 you are importing a section which is in F# Minor and the root is displayed as 48 C2 (instead of 54 F#2 say) you should amend this value to suit to key of the phrase or segment you are importing. The Octave scale simply shows you in which octave band the root note occurs (middle C on the piano occurs in octave 4).

When importing a MIDI file fragment it is important for you to say what scale rule Koan will use whilst performing the import. Koan 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.

The ALL scale rule is used as the default, which means 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

FREQUENCY and RHYTHM OR RHYTHM ONLY. Patterns are stored in strings of characters, and there are 2 types of strings; one contains the frequency and rhythm information, the other 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/TRIPLETS. 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/TRIPLETS.

Extract pattern 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 Koan.

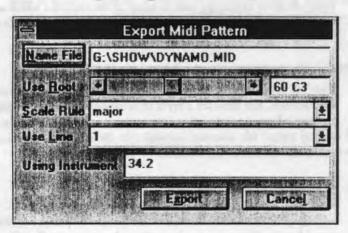
Apply Button

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



Name File button

Press this button to call up a File Save As dialog, where you name the MIDI file you want to save the pattern to.

Use Root

<NUMERICAL NOTE VALUE><NOTE><OCTAVE SCALE>
E.G. 54 F#2

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 and presents you with this guess. If you are exporting a section which is in F# Minor and the root is displayed as 48 C2 (instead of 54 F#2 say) you should amend this value

to suit the key of the phrase or segment you are exporting. The Octave scale simply shows you in which octave band the root note occurs (middle C on the piano occurs in octave 4).

Scale Rule

Just as when importing a MIDI fragment, SSEYO Koan Pro will use the defined scale rule when determining what notes to write to the MIDI file. Generally you will have configured your patterns to play in certain scales and when exporting, you should always use the same scale rule the voice uses in the piece.

The ALL scale rule could give you strange results unless this is the scale rule your pattern uses. This is due to the way the SKME calculates which notes to play. It uses a relative note frequency where each note in the pattern is mapped to the appropriately available note in the scale rule. I.E. the note with value 5 will occur as a major 3rd in an ALL scale rule, but could be a 5th in a minor scale rule. Please refer to Scale Rules or the Patterns parameter for further information.

Use Line

SSEYO Koan Pro will export MIDI files in Type 0 format, so simply select the MIDI Channel (Line) you want it to be written to.

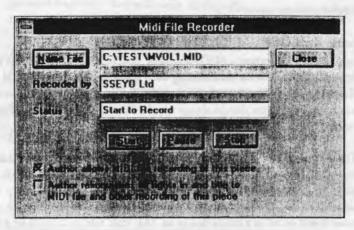
Using Instrument

Select the instrument patch you want to be used.

Export

Pressing this button will cause the pattern to be saved to a MIDI file.

MIDI File Recording



Select MIDI file record from the Options menu or press the Record button on the top toolbar. Use this command to record a Type 0 MIDI file of the currently playing piece, and if you are playing along (see Fixed Volume Input Line section in the Setup Options section) this will be recorded, too. Once you have recorded the file you can edit it in your favorite sequencer package. Follow the steps in the order below:

Note: Recording Rights

When you create a piece you can select 2 options in the Piece Details dialog box. One is to choose whether or not you are willing to allow others to be able to record the output of your piece to a MIDI file (if you have done this then the MIDI file record check box will not be checked and another person will be unable to make MIDI file recordings of the piece in SSEYO Koan Plus). The other is to decide whether or not you are prepared to relinquish all rights in and title to MIDI file or other recordings of your piece. If you do, then others can record it and they own the copyright on any recordings they may make. Please refer to Chapter 11 Publishing and Copyright for further clarification.

General Recording

- 1 Select Options Record Midi File from the menu or press the Record button on the top tool bar.
- 2 Use the Name MIDI file button to name a new file or select an existing one, and press OK.
- 3 Press the Start button in the MIDI record dialog FIRST, and then play the Koan piece that you want to record. This is to make sure you capture all the program change/ instrument selection information (see note 1).
- 4 Stop the piece playing BEFORE you stop the MIDI file recording, as you will get hanging notes in the MIDI file (because they were never told to stop playing! see note 2)
- 5 To record the same piece again just press the Name File button and choose a new name and carry out steps 3 and 4 again.
- 6 Stop the MIDI file being recorded by pressing the MIDI file Stop button in the MIDI File Record Dialog.

Advanced 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 your piece has loaded some new patches or sent out other one off program changes, this information will not be recurded 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 songs 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):

- 1 Stop the currently playing piece.
- 2 Press the Pause button in the MIDI File Record Dialog.
- 3 Open the piece you want to record in 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.
- 9 Close the MIDI File Record dialog.

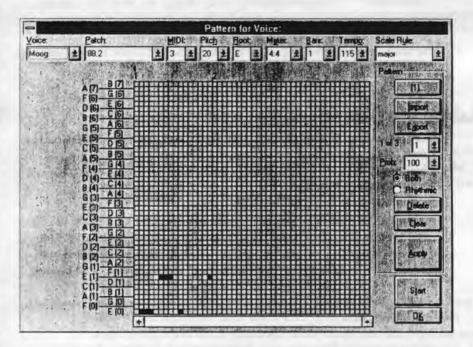
Note 1: It is always best to start recording before you play your piece to make sure you capture all the program change/patch selection information.

Note 2: If you do not stop SSEYO Koan Pro playing before you stop the midi file recorder, 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 for ever. This is because pressing the midi file stop button does NOT stop SSEYO Koan Pro playing. If you want to force all notes to stop in your Midi file, just stop SSEYO Koan Pro before you stop the Midi File Record.

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 files with very slow tempos.

Chapter 7

Pattern Editor



The Pattern Editor 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. You can enter patterns via the mouse or import MIDI files, or sections of them, to the Pattern Editor where you can further modify them. You can play back patterns in the Pattern Editor (they will loop automatically) and edit them before you save them. You can also have many patterns within a pattern group. Whenever it is due to play a pattern, the SKME will choose to play one of these patterns at random. Patterns have a minimum resolution of a 1/16 note and notes can be added of duration up to nearly 4000 whole notes (Semibreve).

Note: The Rhythm rule (which is used by the SKME for composition) only allows notes with a maximum length one whole note).

Note: Before using the Pattern Editor, we recommend you refer to the documentation on the Patterns parameter for more information (Chapter 8).

Loading the Pattern Editor

To load up the Pattern Editor either press the Pattern Editor button on the top toolbar, click the button in the Patterns parameter cell in View 5 or select the call and press the Enter key. You are provided with a number of controls and combo box and toolbar wing you to select a voice, change the patch and pitch etc., described below. Each of these controls changes the associated voice/piece parameter. The display on the left will indicate the availability of either notes or drum sounds (depending on the MIDI channel - channel 10 being reserved for Drums) and this is affected by the Scale rule and Root.

Adding/editing patterns by mouse

1/16th notes Click on any square in the grid with the LHS mouse to enter a note, which will display as a white 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.

Longer notes Click on any square in the grid with the SHIFT Key + LHS mouse button, hold it down and drag across the number of square you want the note to display. The beginning of the note will display as a white square, extended to the right by a number of blue squares indicating it is a long note.

Rest These are not displayed, but where there is no note defined it will be a rest by default.

Clearing notes Either click on a 'white' note with the LHS mouse button to clear it, or press the Clear button to clear the whole display.

Note: The actual pitch of note shown at the bottom left of the grid is that of the Root note (e.g. A, as defined by the Root control), which is also governed by the Pitch parameter (see below). It is good practice to start all patterns near the root, otherwise the pitch can get very high before you know it.

Note: Pressing Apply will not save the piece, and you will need to save your piece regularly.

Applying patterns/changes

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. This means that changes to parameters like the Patch or Scale Rule will be made to the appropriate voice on pressing Apply. Pressing the OK button before you press the Apply button will effectively cancel any changes you have made since your last 'Apply'.

Playing patterns

Provided your SSEYO Koan piece is not already playing you can play patterns in the Pattern Editor by pressing the Start button. This will toggle between Start and Stop. If your SSEYO Koan piece is playing, you can still edit the pattern(s) used by a voice by opening the Pattern Editor. You can make changes to the pattern and have it change in real time in the piece (by first 'Applying' it - see Apply below).

Controls

Voice (see Voice definition)

Select the voice for which you want to add/edit a pattern. Once you have done this you will see the left hand side of the display showing all the pitches available for you to use. If you select a voice which uses MIDI channel 10, the display instead will show the drum patches available. You can only edit the active voice's pattern (the active voice is the one in the combo box).

Patch (see Patch parameter)

Select the instrument/patch for the active voice. When you select a new instrument the change will be made immediately.

MIDI (see MIDI Channel parameter)

Changes the MIDI channel on which the pattern will play.

Pitch (see Pitch parameter)

Defines the minimum pitch a note can have, and so will affect the octave of the Root that is played (for example, increasing the Pitch can shift the pattern

between an octave 4 C root (C4) to an Octave 5 C root (C5)). This is saved back to the voice. The frequency 60 corresponds to C4, which is middle C on a piano. The available pitches display on the LHS (see Scale Rule below).

Root (see Piece Roots parameter)

Defines the Piece Root for the piece; changing the root will immediately change the root note the pattern uses. You can have a list of roots defined at the piece level but you can only save one here. If you want to create a list of roots, you must do it with the Piece Root parameter.

Meter (see Meter parameter)

You can change the Meter of the piece here, and changes will be reflected in the grid display. Changes are only saved when Apply is pressed.

Bars

Sets the length of the pattern to be used and helps keep the display informative. If you want a pattern to have a few notes at the beginning followed by many bars rest, just use this to create a pattern of many bars length. Any square not containing a note is a rest.

Tempo (see Tempo parameter)

Affects the tempo at which the Pattern Editor will play the pattern. This will be saved to the piece when Apply is pressed and so affect the piece tempo.

Scale Rule (see Scale Rule parameter)

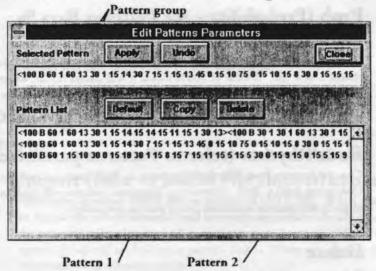
Select the Scale rule that you want to use for the pattern. Often you can have a number of Scale rules defined in a piece, and the pattern will sound different with each Scale rule, due to the flexible way Scale rules work (they are based on intervals and only allow specific notes to play). You will notice that the pitches along the left hand side of the Pattern Editor grid change if you select a different Scale rule - to reflect those notes now available. The Pattern Editor will apply the Scale rule at the voice level.

Pattern (refer to Patterns parameter)

This is where you define or select lists of Patterns from within a Pattern group (refer to the Patterns parameter and see Pattern List below). When a voice

plays a pattern it will choose from one of these defined within the pattern group. The pattern group used by a piece is fixed for the duration of the piece.

Pattern List (refer to Patterns parameter)



This dialog is presented when you press the top button in the area marked Patterns and it shows patterns in their 'string' format so you can edit them manually. It has a number on it like (1).... indicating that this is the first Pattern Group in the Pattern Group list (if you have created one). Each pattern is part of a pattern group, even if there is only one pattern in the group. If a pattern group list is defined, a voice can choose one of the pattern groups from which to select patterns every time a piece is started. Refer to Patterns in Chapter 8 for further information on our string format.

Importing MIDI files and Exporting patterns -see below

1 of 1

Lets you know which pattern you are looking at and out of how many.

 To add a new pattern, select the combo button next to the item above and select the next number available. If you have one pattern defined it will

Prob (Probability - see Patterns Bars % parameter)

Determines how likely the pattern is to play every time the SKME is ready to choose a new one. A value of 100% means it will always repeat, whereas 0% would mean the SKME would never use the pattern and just compose as normal. This does not affect playback direct from the Pattern Editor.

Both/Rhythm (refer to Patterns parameter)

Changes patterns from 'Rhythmic' patterns to 'Both' patterns and vice versa. Converting from a 'Both' pattern to a 'Rhythmic' pattern will result in the loss of pitch information attributed to any note in the pattern.

Delete

Deletes the pattern currently selected.

Clear

Clears the pattern display.

Apply

Pressing Apply will immediately write your pattern and other parameter values defined in the Pattern Editor to the piece, allowing you to use this tool for real time composition. As the SKME can compose in advance it may take a bar or two for the change to work though, depending on what you have selected for your Options Setup Options Composer Reaction values. However, before any changes you have made to patterns are saved to disk you must still save your SSEYO Koan piece.

Start/Stop

Will start or stop the pattern playing. You cannot start a pattern playing if the SSEYO Koan piece is already playing (although you can edit a pattern and press Apply to have the SKME use the new pattern).

OK

Closes the Pattern Editor. Unless Apply has been pressed beforehand, any changes you have made to the pattern will be lost.

Importing MIDI files and Exporting patterns

Import (refer to MIDI File Import/Export)

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.

Export (see MIDI File Import/ Export)

Allows you to export your patterns to MIDI files.

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Apply

Chapter 8

Parameter Reference

(Non-soundcard specific)

This section gives you information on how all the non-soundcard specific parameters work (see Chapter 9 for soundcard specific parameters). At the very start of this section are given the four parameters (excluding Voice Name which is just a text descriptor) which are common to most views in the order they are displayed, namely; Patch, MIDI Channel, Voice Type and Mute.

All the information you require is also available in the online help. Just search for the parameter you want or lookup the word 'parameter' to be presented with a list of those available.

Note: All the parameters support lists of values from which to choose each time the piece is played. When a parameter value is a member of a list the display will show this by cross-hatching the parameter value.

Patch

Location

Each of the 13 views in the Power View and in Voice X view.

Description

The patch (instrument) you want the voice to play. Refer also to Chapter 2 - SSEYO Koan Pro Workplace.

Range of Values

- 1 to 128 for instruments or D1 to D128 for drums (patches with standard GM names are listed)
- Capital tones 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)
- SoundFont compatible Banks and Advanced Gravis patches are supported in the same syntax [Patch].[Bank], e.g. 27.48 is patch 27 bank 48 (see also the AWE32 and Gravis parameters in Chapter 9, as SSEYO Koan Pro is 1 based and SBKs are 0 based) or D43.1 is Drum sound 43 bank 1. Note that 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 SBK at instrument 38, you would refer to it in your Koan piece as D38.1 if you were using bank 1) but 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.

Typical value 015 -Tubular Bell

Some instruments sound better than others in ambient pieces, and although most soundcards support General MIDI (GM), the pieces will sound different on every soundcard depending on the quality of their patches.

SSEYO Koan Pro also supports Capital tones (part of the GS standard) where banks of sound other than the GM sounds can be triggered, if your soundcard has them. GS compatible soundcards generally have a bank containing extra sounds *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). GS soundcards also generally have another Electronic piano No 2 patch in bank 8, which is related to this sound.

To add an instrument that supports the Roland GS Capital tones, Creative Labs AWE32 SoundFont compatible Banks or Gravis Patches, simply select the instrument area with the left mouse and type in the patch and bank you want with the syntax [patch].[bank], e.g. 6.4. When providing SBKs, it is always best to configure them so that someone without an AWE32 can play the piece and it still sounds good (the patches default to bank 0 if no AWE32 is present). This means assigning SoundFonts to the most appropriate patches in your SBK.

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.

See also

Polyphony and the Drum Set (Chapter 3) AWE32 SoundFont Banks (Chapter 9) Gravis Patches (Chapter 9)

MIDI Channel

Location

Each of the 13 views in the Power View and in Voice X 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. Refer also to the Glossary.

Range of Values

0, or 1 to 16

Typical value

1

Note: 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

Voice Type

Location

Each of the 13 views in the Power View and in Voice X view. Refer to Chapter 3 Voice Types.

Description

Rhythmic, Ambient, Follows, RepeatBar or FixedPattern.

Range of Values

Entirely depends on what templates you are using on which to base your piece.

Typical value Rhythmic

Mute

Location

Each of the 13 views in the Power View and in Voice X view.

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: '\'' 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 'P' or 'V' keys in the mute cell).

Range of Values

Typical value



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

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

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

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 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 Duration Ambient Gap

D Chorus (93)

Location: View 7

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

Damper/Hold (64)

Location: View 7

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

Damper Release

Location: View 7

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

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). For further details refer to the discussion on the Drum Set at the end of Chapter 3, and for drums in SBKs see the Patch parameter.

Range of Values

1-128

Typical value

1

Expression (11)

Location: View 7

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

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!

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

See also

Follow Strategy

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

10

Follow Delay Unit

Location: View 3

Description

Determines the units used by the Follow range of parameters.

Range of Values

Seconds, Thousandths of a second or 1/60th of a beat (quarter note/crotchet)

Typical value

Seconds

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, provided it is not another Follows Voice

Type. If you do select to follow another Follows Voice Type, the voice will not play anything.

Range of Values Any voice in the piece

Typical value Default Voice 1

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

Follow Shift/Interval

Location: View 3

Description

Determines how many musical tones away from the 'lead' voice the nutes 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

See also

Follow Shift Interval Range Follow Strategy

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

See also

Follow Shift Interval Follow Strategy

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).

Note that a Follows voicetype can only follow a non-Follows voicetype.

Range of Values

Chordal Harmony; Interval Within Scale Rule and Frequency Shift

Typical value Chordal Harmony

See also

Follow Named Voice Follow Shift Interval Follow Delay Follow Percent

Harmonize?

Location: View 6

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 SBK/ 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.

Range of Values

Yes or No (Yes is default)

Typical value

Yes

This can 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.

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 6

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 6

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

Music Rules (Chapter 5) Lists (Chapter 3) Harmony Rule - Piece level Harmony Rule Value

Harmony Rule(s)

Location: Piece view 1

Description

The Harmony Rule (or list of rules) the piece uses. 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 6 to be '?'. Remember that you can set up a list of predefined 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

Music Rules (Chapter 5) Lists (Chapter 3) Harmony Rule

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

Music Rules (Chapter 5) Harmony Rule



Location: Piece view 1

Description

The time signature to be used by the 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.



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



Micro Modulation Pulse

Location: View 9

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 controllers in Chapter 3

Micro Modulation Pulse Range

Location: View 9

Description

The range of values available on top of that defined by the Micro Modulation Pulse parameter.

Range of Values 0 - 10.000 ms

0 - 10,000 ms

Typical value Default 0

See also

Micro controllers in Chapter 3

Micro Modulation Range

Location: View 9

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

See also

Micro controllers in Chapter 3



Micro Modulation Update

Location: View 9

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 controllers in Chapter 3



Micro Modulation Update Range

Location: View 9

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 Note Delay Change

Location: View 8

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 controllers in Chapter 3 Micro Note Delay Range

Micro Note Delay Offset

Location: View 8

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 Note Delay Range

Location: View 8

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

Notes: This value is purely additive.

Typical value

Default: 0

See also

Micro controllers in Chapter 3

Micro Pitch Change

Location: View 8

Description

Defines by how much the Pitch can change the next time it is updated. It is hest 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.

Range of Values

0 to 8191 (+-1000 ths of a tone)

Typical value

Default: 0 (off)

See also

Micro Pitch Range

Location: View 8

Description

Defines the range over which the pitch of a note played by a voice can change. Is used in conjunction with Micro Pitch Change, Micro Pitch Update and Pitch Bend Offset.

Range of Values

0 to 8191 (1000 ths of a tone) 0 is OFF

Notes: Superimposed on the Pitch Bend Offset.

Typical value Default: 0

See also

Micro controllers in Chapter 3

Micro Pitch Update

Location: View 8

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 Pitch Update Range

Location: View 8

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 controllers in Chapter 3

Micro Volume Change

Location: View 9

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 Volume Range

Location: View 9

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 controllers in Chapter 3

Micro Volume Update

Location: View 9

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 controllers in Chapter 3

Micro Volume Update Range

Location: View 9

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 controllers in Chapter 3

MIDI Channel Reallocation

Location: View 6

Description

Determines if MIDI channel will be reallocated to another Voice if its volume goes to 0.

Range of Values

Yes or No

Typical value

No

Notes:

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).

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.

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 6

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:

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!

In this case, ensure that you create each piano voice with the MID! Channel Sharing parameter set to No.

Note that if you have voices with the same patches/instruments sharing a MIDI channel, and which happen to use different volume or 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.

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 7

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



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

See also

Mutation Factor Mutate No. Bars Range

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

See also

Mutation Factor Mutate No. Bars

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. Note: The Mutation parameter will insert rests as often as it inserts notes.

Range of Values 0 to 1000

Typical value 150

Note:

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 * 0.9

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 har):

	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%
c l .			

See also

Mutate No. Bars Mutate No. Bars Range

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 Mutatinn Factor parameter. If set to Yes, then when a phrase mutates (as determined by Mutation Factor) the duration of notes in the phrase can be changed as well as the note pitches, according to the rhythm rule in use by the voice. 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

Next Note Rule(s)

Location: View 6

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 '?'

Range of Values

If no rule specified it will use the Default rule.

Typical value Default Next Note Rule

See also

Lists (Chapter 3) Music Rules (Chapter 5)

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

Lists (Chapter 3) Music Rules (Chapter 5)

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

Lists (Chapter 3) Music Rules (Chapter 5)

Pan (10) (envelope)

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

See also

Envelopes Envelope Tools

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 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

See also

Patch Change Bars

Patterns Use Percent

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 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



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 also effectively allows the construction of entire pieces using the Mozart 'rolled dice' principle where each pattern acts as a phrase that can be chosen at random. Most often you will employ a balance of the two.

To ose a pattern your voice must be a 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).

Two types of patterns can be created, RHYTHM only (R) or FREQUENCY and RHYTHM (B) (Both). A special data format is currently required for this parameter which defines frequency (pitch) and note length values in a text syntax. However, it is not necessary to know this format while using the Pattern Editor.

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 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 1/2 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).

Typical value and format of a pattern group:

< [% RELATIVE TIME IT WILL PLAY] [B OR R] [PATTERN DESCRIPTION] >< [% RELATIVE TIME IT WILL PLAY] [B OR R] [PATTERN DESCRIPTION] >......

E.G.

Pattern 1 Pattern 2 <80 B 60 1 30 2 30 3 60 7 60 4> <60 B 30 1 30 1 30 3 30 3 60 70 60 4>.....

Notes:

- 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.
- The Pattern will contains pairs of values for a Both type (see below, example 1), or single values for a Rhythmic type (see below, example 2)and you must put 1 space between each number if editing by hand.
- 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.
- 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).

- 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).
- If you have set up your piece to use a list of meters (time signatures, i.e. 3/4
 6/8 etc.) the pattern will be 'filled out' with rests to give it enough notes to
 match up to the new meter.

IN DEPTH BACKGROUND ON PATTERN STRINGS

The Patterns parameter is where the patterns are stored.

A pattern definition looks something like one of following, where the difference is the use of the B (both RHYTHM and FREQUENCY) and R (RHYTHM only) characters:

Example 1 - Both RHYTHM and FREQUENCY (B)

< 100 B 60 1 60 2 60 3 30 0 30 2 15 5 15 6 15 0 15 1>

This pattern group has only one pattern in it and it will play 100 percent of the time, where 100 is the percentage relative probability of this pattern (see below) being chosen when a number of patterns are included in this pattern group. The pattern contains information on both RHYTHM and FREQUENCY and the values are given in pairs (where the first of a pair is the duration value and the second is the frequency information). Note that a FREQUENCY value of 0 is used to indicate a rest. The FREQUENCY values correspond to available values in the Scale Rule applied to this voice. i.e., if your scale rule allows every note in the scale to be played, each interval in the pattern would represent a semitone. If, however, your Scale rule only allowed the Root note and a 5th, then a value of 1 would represent the Root Note, 2 would represent a 5th, 3 would represent the next available note - being an octave above the root - and so on. The syntax for the RHYTHM values is outlined in the second example, below.

Example 2 - RHYTHM only (R) <100 R 60 60 60 -30 30 >

This pattern will play 100 percent of the time, where 100 is the percentage relative probability of this pattern (see below) being chosen when a number of patterns are included in this pattern group. The pattern is RHYTHM and any note pitches may be played by the KME, provided they follow the indicated rhythm and obey the Rules used by the voice. The number 60 indicates a 1/4 note (crotchet), other numbers indicate the appropriate scaled multiple (e.g. 15 is one quarter of a 1/4 note (crotchet), i.e. a 1/16 note (semiquaver) - see below). Rests may be indicated by using a negative in front of the number. In the above example -30 represents a rest of a 1/8 note (quaver).

Note that the percent value in a pattern definition is a relative probability of being chosen when a pattern group contains more than 1 pattern.

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

Notes:

- 1 Although the Rhythm Rules do not support note values over 240 the Patterns parameter does. 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 of 15, i.e. 45, 105, 15, 60 etc.
- 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 har length is 12 * 20 * 3 = 720. The total har length for 5/4 on the other hand is simply 5 * 60 = 300.

IN DEPTH BACKGROUND ON 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. This effect can mimic the 'roll the dice' approach provided by other auto-accompaniment programs - however, with the SKME the velocity and volume envelopes mean that this can create very realistic sounding players and adds a new dimension to this approach.

Example 3 - multiple patterns in a pattern group
<80 B 60 1 30 2 30 3 60 7 60 4><60 B 30 1 30 1 30 3 30 3 60 70 60 4><40
B 240 0>

The pattern group above contains 3 patterns, the first with an 80% chance of occurring, the second with a 60% chance of occurring and the third with a 40% chance of occurring every time a bar is played. As the probabilities are all relative, the total value is added up (80+60+40) and each pattern's likelihood of being played is measured against this total. You could have given them each a value of 100, all that would happen is that they would all have had a 33% chance of playing - 100/ (100+100+100).

Note: You will notice the 3rd pattern is effectively a bar long rest. This allows you to create more 'space' in a piece.

See also

Pattern Editor
Patterns Use Percent
Mutation Factor
Mutate No. Bars
Music Rule (Chapter 5)

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

See also

Phrase Gaps Range Phrase Note Rest %

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

See also

Phrase Gaps

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.

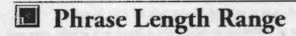
Range of Values 0-32,000

Typical value

2

See also

Phrase Note Rest %



Location: View 1

Description

Range of number of notes to be expected in a phrase over and above the minimum value.

Range of Values

Typical value

See also

Phrase Length

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 Length
Patterns
Repeat parameters
Ambient parameters
Voice Types (Chapter 3)

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.

There are also 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 enables a user with SSEYO Koan Plus to make MIDI file recordings of the piece. Should you supply users your piece in an .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 or .SKD 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 - this is primarily aimed at people 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.

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.

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

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This piece is about etc.....

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

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

Piece Length

Location: Piece view I

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 hoors)

Typical value

300

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

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

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 Root Envelope Scale Rule(s) Availability

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 Change Piece Root Bars 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

See also

Piece Root Change Piece Root Bars

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.

Range of Values

Yes or No

Typical value

See also

Piece Semitone Shift Piece Random Scale

Piece Root Envelope (envelope)

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

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 Root Change Piece Semitone Shift Piece Random Scale Scale Rule(s) Availability

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.

Range of Values

Ab, A, A#, Bb, B, C, C#, Db, D, D#, Eb, E, F, F#, Gb, G, G#

Typical value

(

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 Root Change Piece Semitone Shift Piece Random Scale

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 Semitone Shift Range Piece Root Bars

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 Semitone Shift



Pitch

Location: View I

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 8

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)

Notes: Uses the pitch wheel controller

Typical value Default: 0

See also

Micro Pitch parameters
Micro controllers (Chapter 3)

Pitch Bend Sensitivity

Location: View 8

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 controllers (Chapter 3)

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 7

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

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, but there is on the SCC1

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

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 Bars Percent Selection of numbers in range 0 to 100
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:

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Repeat Bars Percent 50 Repeat Bar History 1

Important 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 History Mutation Factor Mutate No. Bars

Repeat Bar History

Location: View 4

Description

Defines how many bars back in the history of a piece SSEYO Koan Pro 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 Bars Percent Repeat Bar History Repeat For Bars 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 Bars Percent Repeat Bar History

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 Bars Percent Repeat Bar History

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

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.

Range of Values

Can be set to any voice (via its Voice Name) available in the piece.

Typical value Default Voice

P Reverb (91)

Location: View 7

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 6

Description

For the voice that uses it, the Rhythm rule determines the likelibood 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. If the value is set to '?' it will use the Rhythm rule defined at the piece level. Each voice can have its own distinct Rhythm rule.

Range of Values

Can be set to any Rhythm rules you may have created or a '?'

Typical value

Default Rhythm Rule

See also

Lists (Chapter 3) Music Rules (Chapter 5)

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

Lists (Chapter 3) Music Rules (Chapter 5)

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 6), 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

Lists (Chapter 3) Music Rules (Chapter 5)

E Scale Rule Availability (envelope)

Location: Scale Rule view 2

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.

Note: 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

Lists (Chapter 3) Music Rules (Chapter 5) Scale Rule Piece Random Scale

圏 Scale Rule Value

Location: Scale Rule view

Description

Displays the Scale Rule window, where you can see the probability bars for each Scale rule defined/ available. The probability bars determine the likelihood of a note playing being of a certain note in the scale (i.e. 5th or Root 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

Lists (Chapter 3) Music Rules (Chapter 5) Scale Rule

Scale Rules

Location: View 6

Description

For the voice that uses it, the Scale rule determines the which note will be chosen to play from the Scale rule. You can select which rule is used for a voice from the list of already pre-defined Scale rules (which you can add to/modify in the Scale rule Window by selecting the Scale rule button on the top toolbar or selecting Groups Scale 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 will be from those available in the Scale rule used by the voice. If the value is set to '?' it will use the Scale rule defined at the piece level. Each voice can have its own distinct Scale rule.

Range of Values

Can be set to any Scale rules you may have created or a '?' Each voice can use its own Scale rule.

Typical value

Minor

If your SSEYO 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 LHS mouse to click on the parameter value, which you should select to be a '?'

See also

Lists (Chapter 3) Music Rules (Chapter 5)

Soft (67)

Location: View 7

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

0 to 127 (0 is no softness, 127 is maximum softness)

Typical value

35

Makes the instrument sound like it is being played softly, meaning it is great for use in ambient pieces.

Sostenuto (66)

Location: View 7

Description

Defines the amount of sostenuto applied to notes played by a voice (provided your soundcard supports this controller). This parameter is set for the duration of the piece.

Range of Values

0 to 127 (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

Defines the Tempo at which your piece will play. When a piece is playing, it is shown in the status bar at the bottom of SSEYO Koan Pro. The SKME composes one bar in advance when it comes to tempo, so if you alter the Tempo value it will change the tempo at which the piece is playing, but not instantaneously.

Range of Values

1 to 199 (beats per minute - bpm)

Typical value

60

See also

Tempo Range

Tempo Change

Location: Piece view 1

Description

Determines whether you will allow the piece tempo to change automatically or not during the piece. You can set this to Yes if you wish, in which case the piece tempo will be that set by the Tempo parameter and amended by the Tempo Envelope. If set to No then the tempo will be fixed for the duration of the piece.

Range of Values Yes or No

Typical value Yes

See also

Tempo Envelope Tempo Envelope Range Tempo Tempo Range

Tempo Envelope (envelope)

Location: Piece view 1

Description

This envelope determines how the piece tempo will change as it plays. You can edit it with the normal envelope tools. The minimum and maximum values of this envelope are set by the Tempo and Tempo 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).

Range of Values

Determined by parameters Tempo Minimum and Tempo Range

Typical value Anything from 0 to 127

See also

Tempo Change Tempo Range Tempo Envelope Range

Tempo Envelope Range

Location: Piece view 1

Description

Determines the spread of tempos over which the Tempo Envelope operates. Once you have set the base level tempo with the Tempo parameter, the Tempo Envelope Range parameter 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 75 bpm.

Range of Values

0 to 127

Typical value 20

See also

Tempo Change Tempo Tempo Envelope

Tempo Range

Location: Piece view 1

Description

Range of tempos allowed for the piece above that defined by the Tempo parameter. A tempo will be chosen for the piece when it plays, and this will be somewhere in between the value of the Tempo parameter and the Tempo plus the Tempo range parameters. I.e., if the minimum was 35 and the range 40 the piece could start playing at anything from 35 to 75 bpm.

Range of Values

I to 199 (beats per minute - bpm)

Typical value

20

See also

Tempo

Velocity (envelope)

Location: Envelope View

Description

The Velocity envelope of a voice throughout the piece. The velocity (how hard a note is hit) of any notes played will follow this envelope. You can edit the envelope using the Envelope Tools.

Range of Values

0 to 127 (in the form of an envelope).

Typical value

Default envelope (with a constant value of 64)

See also

Velocity Range Velocity Change Velocity Change Range

☑ Velocity Range (envelope)

Location: Envelope View

Description

The 'Range' of velocities that can be expected to occur above and beyond the Velocity envelope. You can edit the envelope using the Envelope Tools.

Range of Values

0 to 127 (in the form of an envelope).

Typical value

Default Envelope (with a constant value of 10)

See also

Velocity Velocity Change Velocity Change Range

☑ Velocity Change (envelope)

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. In effect it determines the level of 'random walk' that the voice's velocities can accommodate 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. A voice's velocity will never be set outside of the limits determined by the Velocity and Velocity Range parameters.

Range of Values

0 to 127 (in the form of an envelope).

Typical value

Default Envelope (with a constant value of 5)

See also

Velocity Change Range Velocity Range Velocity

☑ Velocity Change Range (envelope)

Location: Envelope View

Description

The range of velocities above those given in the Velocity Change Envelope.

Range of Values

0 to 127 (in the form of an envelope).

Typical value

Default Envelope (with a constant value of 5)

See also

Velocity Change Velocity Range Velocity Envelopes **Envelope Tools**

Volume (envelope)

Location: Envelope View

Description

The Volume envelope of a voice throughout the piece. This has a major effect on how the piece is 'heard', as bringing voices in and out of the piece creates a lot of movement, variety and interest. It is normally interpolated (meaning smoothed out), but using the Volume Step Change parameter you can have changes applied immediately.

Range of Values

Entirely depends on what templates you are using on which to base your piece.

Typical value

Default envelope

Notes:

Envelopes are around 300 pixels wide and contain 101 data points (0 to 100%) - 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

Volume Step Change



■ 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. For instance, this could be used to cleanly bring in drums in a long piece.

Range of Values Yes or No

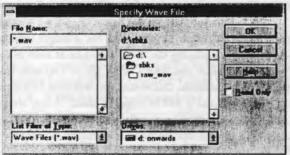
Typical value

See also

Volume

Wave file

Location: View 2



Click on the WAV cell to bring up the Specify WAV File dialog, where you can select the WAV file(s) to be used by your piece.

Description

Allows playback of a WAV file in the SSEYO Koan piece. Any number of voices can be assigned to play WAV files. WAV files do not follow volume envelopes and so you have no control over their volume (except through your soundcard's mixer panel). However, you can Mute a WAV file and this is achieved by stopping it playing.

Range of Values

Type in the name of the WAV file (you can also type in its path). This parameter supports lists, as usual.

Typical value

WAVFILE1.WAV

OR

C:\KOAN\KOANALB\WAVFILE1.WAV

Although the path to the WAV file can be specified in this parameter, a better solution is to use the Options Setup Dialog and set the Koan File Supplementary Search Path to include the directory to your WAV file, especially if you use a lot of WAV files. If you do not do either of these things the SKME will look for it in the same directory as the piece.

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, Follows, RepeatBar or Fixed Pattern) and other parameters such as Phrase

Length and Phrase Gap etc. Once started, a WAV file will continue playing until it reaches its natural end, or 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, the SKME 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. A way around this is to have long rests between each phrase, and then make the Phrase Length 1 and Phrase Length Range 0 so that no notes accidentally clip it, i.e.:

Parameter	Value
Wave file	WAVFILE1.WAV
Phrase Length	1
Phrase Length Range	0
Rests Between Phrases	15
Rests Between Phrase Range	5

Note 1: All Voice Types 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 3.1 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

Phrase Length Phrase Length Range Phrase Gap Phrase Gap Range Ambient Duration

Soundcard Specific Parameter Reference

All the parameters below are specific to certain soundcards, namely the Creative Labs AWE32, Advanced Gravis Ultrasound/MAX and the Roland SCC1. If you set these parameters and do not have the appropriate soundcard you will not bear any differences within your pieces.

All the information you require is also available in the online help. Just search for the parameter you want or lookup the word 'parameter' to be presented with a list of those available.

Note: All the parameters support lists of values from which to choose each time the piece is played. When a parameter value is a member of a list the display will show this by cross-hatching the parameter value.

■ AWE32 Chorus Variation

NOTE: Only relevant for Creative Labs AWE32 soundcard owners

Location: Piece view 3

Description

This parameter will allow you to select one of the chorus effect types available in the AWE32 Control Panel (refer to your AWE32 Control Panel manual for further information on these). You will need to select the AWE32 Effect Type parameter to be 0 - Reverb and Chorus (if this is set as -1 -Default settings it will leave your AWE32 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

AWE32 Effect Type

NOTE: Only relevant for Creative Labs AWE32 soundcard owners

Location: Piece view 3

Description

This parameter lets you select which Effect Type you want your AWE32 to use (refer to your AWE32 Control Panel manual for further information on Effect Types). Selecting -1 -Default settings will leave your AWE32 chorus settings as they were; 0 - Reverb and Chorus allows you to select the settings for your card through the AWE32 Chorus Variation and AWE32 Reverb Variation parameters; and 1- Q Sound will select this effect. The value of this parameter (and the other AWE32 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

AWE32 EMU8000 Controllers

NOTE: Only relevant for Creative Lahs AWE32 soundcard owners.

Location: Views 10, 11 and 12

Description

There are 25 parameters in all, each one starting with "AWE32" 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 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.

Range of Values
Refer to AWE32 FAQ

Typical value
As appropriate to the controller

AWE32 Envelope 1 Delay

AWE32 Envelope 1 Attack

AWE32 Envelope 1 Hold

AWE32 Envelope 1 Decay

AWE32 Envelope 1 Sustain

AWE32 Envelope 1 Release

AWE32 Envelope 1 Filter Cutoff

AWE32 Envelope 1 Pitch Shift

AWE32 Envelope 2 Delay

AWE32 Envelope 2 Attack

AWE32 Envelope 2 Hold

AWE32 Envelope 2 Decay

AWE32 Envelope 2 Sustain

AWE32 Envelope 2 Release

AWE32 LFO 1 Filter Cutoff

AWE32 LFO 1 Frequency

AWE32 LFO 1 Pitch Shift

AWE32 LFO 1 Start Delay

AWE32 LFO 1 Volume Shift

AWE32 LFO 2 Frequency

AWE32 LFO 2 Pitch Shift

AWE32 LFO 2 Start Delay

AWE32 Pitch Filter Cutoff

AWE32 Pitch Initial

AWE32 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

AWE32 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 wahwah 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 dnwn.

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.

■ AWE32 Reverb Variation

NOTE: Only relevant for Creative Labs AWE32 soundcard owners

Location: Piece view 3

Description

This parameter will allow you to select one of the reverb effect types in the AWE32 Control Panel (refer to your AWE32 Control Panel manual for further information on these). You will need to select the AWE32 Effect Type parameter to be 0 - Reverb and Chorus (if this is set as -1 -Default settings it will leave your AWE32 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

■ AWE32 SoundFontTM Bank & SBK File Name

NOTE: Only relevant for Creative Labs AWE32 soundcard owners

Location: Piece view 3

Description

Allows your piece to use samples from one or more Creative Labs SoundFont compatible bank Files (SBKs). SBKs 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 AWE32 sound card. 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 AWE32. 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 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 SBK files they use. We also allow you to ship a Demo version of SSEYO Koan Plus. The AWE32 soundcard currently ships with 0.5Mb of RAM which can be increased up to 28Mb by adding sufficient memory chips.

You may use SoundFonts from more than 1 SBK in a piece (see notes at end), 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 SBKs specially for each piece. Additionally, these SBKs can be loaded from a CD ROM or any other drive and directory once you set the path the SKME uses (See Options Setup).

Range of Values

The SoundFont compatible bank 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 .SBK extension.

 Format and typical value for a piece using only 1 SBK [BANK NUMBER] [SOUNDFONT BANK NAME] Example: 4 DYNAMO.SBK

(Where 4 is the bank number and DYNAMO.SBK is the actual SoundFont compatible bank. The SoundFont compatible bank should generally be in the same directory as the piece that uses it unless you define the path in Options Scrup. Note, do not type in the brackets.)

2) Format and typical value for a piece using more than 1 SBK [BANK NUMBER] [SOUNDFONT BANK NAME] [PATCH NUMBER IN THIS SBK] [PATCH YOU WANT THIS TO BE LOADED TO] [SOUNDFONT BANK NAME] [PATCH NUMBER IN SBK] [PATCH YOU WANT THIS TO BE LOADED TO! ETC

Example:

4 GUITAR.SBK 1 2 PIANO.SBK 3 7

(Where 4 is the bank number and GUITAR, SBK and PIANO, SBK are the SoundFont compatible banks. Patch 1 in GUITAR.SBK is placed in to patch 2 in the piece and Patch 3 from PIANO.SBK is placed into patch 7 in the piece. The SoundFont compatible bank should generally be in the same directory as the piece that uses it, unless you define the path in Options Setup. Note, do not type in the brackets.)

Notes:

- The Creative Labs Vienna SBK tool uses instruments from 0 to 127 and Koan Pro reads them as 1 to 128. Make sure you allow for this.
- Any SBKs used must be in the same directory as your Koan piece, unless you define the path in Options Setup.
- Loading SoundFont compatible banks onto the AWE32 takes time; the larger the SBK the longer it takes. However, loading is much faster in Windows 95. We recommend that you ship pieces with SBKs that can fit into the default supplied AWE32 (512k).
- You should ensure that the GS Synth Bank is not loaded by your AWE32 Control Panel before loading a Koan piece containing SBK 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 AWE32 Control Panel Synth Bank is set to General MIDI.

- The SKME fully supports loading of individual SoundFonts from multiple SBKs, 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 (which were currently in beta at time of going to press).
- 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 AWE32 EMU8000 controllers Patch parameter

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 banks 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.

Format and typical value

[BANK NUMBER] [PATCH NUMBER] [PATCH NAME]......[PATCH NUMBER] [PATCH NAME]

Example:

99 1 DRUM1 2 DRUM2 3 DRUM4......127 DRUM127

(Where 99 is the bank number and DRUM1 DRUM2 etc. are the drum patch names. The drum patches should be in the same directory as the piece that

uses them. You do not need to type in the .PAT extension for any of the patches. Note, do not type in the brackets.)

Please refer to the Gravis Melodic Patch Bank parameter Notes:

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 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 Plus.

Range of Values

Up to 127 different patches can be defined.

Format and typical value

[BANK NUMBER] [PATCH NUMBER] [PATCH NAME]......[PATCH NUMBER] [PATCH NAME]

Example:

99 1 BASS 2 GUITAR 3 PAD.....127 FLUTE

(Where 99 is the bank number and BASS, GUITAR etc. are the melodic patch names. The melodic patches should be in the same directory as the piece that uses them. You do not need to type in the .PAT extension for any of the patches. Note, do not type in the brackets.)

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.
- 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.
- 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.

When sending out patches to your customers/ friends make sure you put them in the same directory as the Koan piece which uses them.



NOTE: Only relevant for Roland SCC1 soundcard owners.

Location: View 13

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



SCC1 Decay

NOTE: Only relevant for Roland SCC1 soundcard owners.

Location: View 13

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



SCC1 Release

NOTE: Only relevant for Roland SCC1 soundcard owners.

Location: View 13

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

Authoring Guidelines and 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, freeflowing 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.

Hints and 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 (see also Chapter 12 - Common Questions). They all assume you are reasonably familiar with SSEYO Koan Pro.

I want to include WAV files in my pieces, and I want to have them trigger randomly and independently

Say you have 3 voices you want to play WAV files. The easiest thing to do is to set up each voice as an Ambient voice. Make the Ambient Duration parameter for each voice longer than the WAV file - the limitation here is 32 seconds if you are using Milliseconds for you ambient units, or a lot longer if set to Full seconds!. If you trigger a sample longer than 32 seconds long (when using milliseconds) the voice could trigger the sample again before it finishes playing (if the Ambient Gap parameter is 0). You can play longer samples (up to 64 seconds) if you give the Ambient Gap parameter its maximum value of 32 seconds. Don't forget that you need to leave enough space between each triggering to let it breathe. Set the Phrase Length to 1 and Phrase Length Range to 0 - this means that only 1 note will play per phrase (and before another starts), otherwise it can trigger more notes - according to the Rhythm rule selected (Ambient voices still follow the Rhythm rules if you give them phrase lengths longer than 1). Do the same for each voice playing a WAV file. When it finishes playing one file it will play another one according to when the next Ambient voice comes up to play again (it could even be the same one).

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 woold 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 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 roles (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).

Note: To change Scales during a piece see Scale Rule Availability envelope in Chapter 8

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Chapter 11

Publishing and Copyright

Copyright, licensing and ownership discussion

SSEYO provides no warranties whatsoever as to the accuracy Important: or legality of the statements provided below. We recommend you should consult your lawyer should you have any doubt about your ownership of Copyright on recordings you may make. See also the Software License.

Copyright

We are keen to bring to the multimedia market a way of creating good quality music that is copyright free, but copyright law is a very complex area. 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. In our efforts to bring about copyright free music 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 relinguish.

The originator of a SSEYO Koan file/piece is the owner of the copyright on that piece

Just as a Record Company can sell you a record or CD on which their artist's song is recorded, the originator of a SSEYO Koan file can provide a floppy disk containing their own file/piece(s). Although you DO own the record or floppy disk once you have purchased it, you DO NOT own the actual song or file itself; nor (for an audio recording) do you own the recording of that song: in effect YOU are purchasing a license to use or listen to that particular song or SSEYO Koan's interpretation of the file YOURSELF. The SSEYO Koan file is a literary work and so enjoys the full protection of 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). Licensing software for use is the normal situation for software, and the originator of the software is the copyright holder under International Copyright law.

MIDI file recordings of SSEYO Koan output

So, purchasing a floppy disk containing a SSEYO Koan file does not mean that you then own the copyright to it and, because you don't own it, you are not allowed to make copies of that file and resell these copies (but as with a CD you are allowed to make a 'backup' copy for your own personal use). However, because the SSEYO Koan output can be different each time a file is played (dependent on how the author has set up the piece), you can make a 'master' audio or MIDI file recording of it each time it plays which no one else will probably ever be able to make (subject to the limits of our random number generator), so you can 'own' the copyright on that recording.

Note: The situation may be unclear on who would owns the copyright on recordings of a piece that contained recognizable musical fragments of another artists work. This could occur if the author of a SSEYO Koan piece included musical 'seed' phrases (patterns) that were the copyright of another artist. There are also further complications of MIDI file recordings of computer generated music on which we are seeking legal advice.

What is the benefit of this to you?

We believe it means you can use 'ROYALTY FREE' (because you own the copyright) any MIDI file or audio recording you have made of any Koan piece (subject to the original author giving consent by relinquishing any present or future rights to or title they may have to all MIDI file or other recordings of their pieces, and this is an option to which they agree or not) for any use or application you may desire. The only requirement is that you note somewhere prominently in your application, accompanying documentation or materials that the music was created by SSEYO Koan software and you give the original authors name, i.e. "Original music "A. Gnu Piece" was written by "A. Gnu Artist" and created and played by SSEYO Koan software".

If you are the originator of a SSEYO Koan file then, as stated, you may not have any claim to copyright on the 'output', but you may record one or many instances of that output and you own the copyright to that (those) specific recording(s).

Live output from the SKME

Where the SKME is composing music is real time, we call this 'live' use (see below). Our standard license (the one that comes with this package) allows you to use the product for personal use where the Software is 'in use' on a computer when it is loaded into the temporary memory or installed in the permanent memory of that computer.. However, we specifically preclude use of this software in an unattended mode of operation for any purpose whatsoever, other than for personal use (by attended use we mean you as an individual are controlling it, interacting with it or playing it). We also preclude use for public broadcast (please see the license).

This means you can use SSEYO Koan products for all your daily personal requirements whatever they may be. But, if you want to use any SSEYO Koan product in an unattended form (i.e. no-one is regularly attending it) for nonpersonal use (i.e. company or business) you will need a special license from us.

Note: Play back of MIDI files created earlier by the SKME are simply recordings or the SKME and are not composed in real time, so for live use you can use them as you please, subject to the discussion earlier.

Examples:

Use covered by standard license

Live attended use

Personal

SSEYO Koan personal background music on your world home computer	
Creating your own SSEYO Koan pieces	Yes

Non-personal (i.e. used by or for business)

Presentations with SSEYO Koan background (loaded with presentation)	
Live use at gigs, DJ work, performances	Yes

Live unattended use

Personal

Let your pets listen to it all day long!	Yes
Put it in your greenhouse for the plants!	Yes
Wake up to it in the morning	Yes
General music around the house	Yes

Non-personal (i.e. used by or for business)

Sending out Product Demo disks with SSEYO Koan music	No
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 would be pleased to discuss our licensing terms with you for Unattended, non-personal use, as outlined above.

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 hyper-music - music that is able to be different every time it plays. 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 piece player, SSEYO Koan Plus), 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 Plus supplied on the CD ROM and it will call up your album. When new versions of SSEYO Koan Plus (and thus the SKME) become available, you will simply ship your new CD-ROM album with the new SSEYO Koan Plus on the CD ROM - so your users always get the latest capability.

SSEYO will be happy to license to you a serialized copy of SSEYO Koan Plus 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 Plus, to match the version of the SKME your copy of SSEYO Koan Pro would utilize. The license 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 Pro pieces and templates (SKD and SKT files)

We would love to hear from you if you feel you have some great material we could use in our products or license from you. If your material is good we could even point people in your direction. We are always looking for great templates and pieces that others can use to improve their own work. Please contact us for details.

SSEYO Koan Pieces in SKP format

We are also looking for SKP pieces that we can upload to our CompuServe forum and possibly even feature on our web site. If you submit these to us we request you submit the SKD file of the piece which we will convert into SKP format. Please contact us for details.

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SSEYO Kona Pro pieces and templates

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Chapter 12

Common Questions

I get no sound (or only a few sounds) coming out of my soundcard

Firstly check that the Mixer application (if any) used by your soundcard has its sliders for MIDI and Volume turned up. Then check that the voices you are using in the piece are not muted. Once you have checked these, 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), and Koan pieces often use more. You should make sure that all 16 channels are 'active'.

Another common problem can be 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 documeotation for more information.

Why do I get different quality sounds on different cards?

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.

Why can some pieces sound jumpy?

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 - refer to the online help for further discussion. 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, again refer to the online help.

Why do pieces sometimes take time to stop?

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.

Why can I not record a MIDI file?

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).

Why do some of my Creative Labs SoundFont compatible Banks or Gravis Ultrasound patches not seem to play?

Both cards

Make sure you have the correct path information included in the Options Setup Dialog and the Koan File Supplementary Search Path hnx. This determines where the 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 SBKs or patches.

Creative Labs SoundFont compatible banks on an AWE32

If you have tried to load too large an SBK for the memory available on your AWE32, then the SBK will not load at all.

It is also possible you have set up the patch to refer to the wrong patch in the SBK. For instance, your piece is playing patch 12.1 (instrument 12 in bank 1) and your patch is defined as 12 in the SBK. SSEYO Koan Pro pieces work from 1 to 128 whereas SBKs 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 SBK where you have set the volume of the sample to zero or a very low value.

You may have created an SBK 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.

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.

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?

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 annther (MIDI Line Force parameter), otherwise the piece might not play as expected.

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 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 and that the Follow % parameter is not 0%

If a RepeatBar voice, make sure it is repeating a voice that is playing 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%.

If you are using special soundcard specific envelopes or filters, make sure the settings you have chosen allow a note to be heard (you may be using a very long attack while the SKME is playing 16th notes, so you never hear them).

Why can't I get a voice to play a pattern or why does the pattern change?

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.

How do I change the volumes of individual drum instruments?

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.

How do I change the settings of the voice that is added when I select Edit Add?

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!

Why do I suddenly get a low or high note occasionally?

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 he large enough). If this was not the case, the SKME might compose all its notes within the same octave.

How do I change the default settings when I create a new piece?

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.

I am using an external synth module and SSEYO Koan Pro keeps crashing

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.

When my piece plays I seem to get occasional hanging notes

This happens very rarely and only in very busy or complex pieces where the SKME is sending out a tremendous amount of MIDI information. It is to do with your soundcards MIDI buffer getting full.

Why can the AWE32 card suddenly give strange pitch or modulation effects on very rare occasions?

What appears to happen is that you will all of a sudden get a large amount of pitch bend or modulation applied to a voice or voices. It can happen very rarely and experience seems to indicate that it is most likely to happen using the micro controllers. We believe that this is being caused somewhere in the AWE32 hardware or software driver, and once you have this effect the only sure solution to get rid of it is to physically 'power cycle' your PC (turn it off and then on again).

Common Questions 1

Reverb and chorus do not seem to work correctly

Try setting the Master Control values to 0, as these values add to those you have chosen in View 7 (Controllers view).

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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

The top soundcard made by Creative Labs, manufacturers of the SoundBlaster range. It contains a wave synthesizer and sound banks allowing substitution of other, 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

- 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 envelupe, 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 sume 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 AWE32 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 AWE32 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.

SKME

The SSEYO Koan Music Engine behind the SSEYO Koan range of products. This is the SSEYO Koan DLL (KOAN.DLL or KOAN32.DLL) which interprets all the parameters used in a piece when composing the musical output.

кото

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 both SSEYO Koan Pro and SSEYO Koan Plus use for the actual output of the music they generate. 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 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 oboc 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.

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.

Appendix

Keyboard and Mouse shortcuts

To a position in the piece

(0% to 90%)

Keyboard shortcuts - navigation

Press
LEFT ARROW
RIGHT ARROW
UP ARROW
DOWN ARROW

Keyboard shortcuts - parameter and envelope views

ALT+0 through 9

To change to	Press
From parameter to envelope window (toggle)	F6
Views 1 through 9	CTRL+1 through 9
View 10 though 13	CTRL+SHIFT+0 through 3
Next view	CTRL+PAGEUP
Previous view	CTRL+PAGEDOWN
Volume envelope	CTRL+1 (in envelope window)
Velocity envelope	CTRL+2 (in envelope window)
Velocity Range env.	CTRL+3 (in envelope window)
Velocity Change env	CTRL+4 (in envelope window)
Velocity Change Range env.	CTRL+5 (in envelope window)
Pan envelope	CTRL+6 (in envelope window)
Select help on selected parameter	CTRL+F1

Keyboard shortcuts - numbers and text

То	Press
Select a cell for editing/ apply value after editing	ENTER
Increase value by 1	+ or our partition of the
Decrease value by 1	Commence of the second
Increase value by 10	1
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

Keyboard shortcuts - copy/cut/paste/add/lists

То	Press
Copy a voice	CTRL+C
Copy a parameter or envelope	CTRL+SHIFT+C
Add a voice	ALT+E+A
Paste a voice	CTRL+V
Cut a voice	CTRL+X
Delete a voice	CTRL+DEL
Create/ Edit a list	CTRL+L

Keyboard shortcuts - saving/opening pieces

То	Press
Create a new piece	CTRL+N
Open a piece	CTRL+O
Save a piece	CTRL+S

Keyboard shortcuts playing/stopping/muting/recording/solo/ pausing/forcing

SPACEBAR
SPACEBAR
CTRL+F
CTRL+B
F5
ENTER key in mute cell
April - Chao
CTRL+SPACEBAR
ALT+SPACEBAR

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	Right mouse button on Column header
Toggle column width between minimum and maximum value	Double click on column header

Increase/decrease column width

Move to a position in the piece

Drag column header handle with left mouse button

Click on the piece marker

Changing values by clicking

То	Click and Click/Hold
Increase value by 1	Left mouse button on RHS of cell (number/ text area is a dead zone)
Decrease value by 1	Left mouse button on LHS of cell (number/ text area is a dead zone)
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/ Unsolo a voice (toggle)	CTRL+left mouse button on mute cell

Mouse - Changing values - dragging

То	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 left or right	

Mouse - envelopes

To

Select entire envelope

Apply envelope tool to marked envelope area Quickly apply envelope tool to envelope selection

Click

Double click on envelope with left mouse button

Mark area with left mouse button and then depress desired tool Choose envelope tool first, then CTRL+left mouse button and mark

the desired area

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Keyboard and Mouse shortcuts



For a complete list of keyboard or mouse shortcuts refer to the online help and search for Shortcuts - keyboard and mouse.

To, then	Keyboard - Press	Mouse equivalent - Click
Increase value by 1	1	Left mouse button on RHS of cell
Decrease value by 1		Left mouse button on LHS of cell
Increase value by 10	1	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+]	CTRL+SHIFT+left mouse button on RHS of cell
Decrease value by 100	CTRL+[CTRL+SHIFT+left mouse button on LHS of cell
Move to a position in the piece	ALT+0 through 9 (0% to 90%)	Click on the piece marker at your desired position

To, then	Keyboard - Press
Copy a voice	CTRL+C
Copy a parameter or envelope	CTRL+SHIFT+C
Paste a voice	CTRL+V
Cut a voice	CTRL+X
Delete a voice	CTRL+DEL
Create/Edit a list	CTRL+L
Quick MIDI recording	F5

To. then	Keyboard - Press	
Play/stop a piece (toggle)	SPACEBAR	
Fast forward a piece	CTRL+F	
Fast rewind a piece	CTRL+B	
Force note to play	CTRL+SPACEBAR	
Force note to stop	ALT+SPACEBAR	
Solo a voice	/ (in mute cell)	
Unsolo a voice	\ (in mute cell)	
Mute (toggle)	ENTER (in mute cell)	

To change to, then	Keyboard - Press
From parameter to envelope window (toggle)	F6
Views 1 through 9	CTRL+1 through 9
View 10 though 13	CTRL+SHIFT+0 through 3
Next view	CTRL+PAGEUP
Previous view	CTRL+PAGEDOWN
Volume envelope	CTRL+1 (in envelope window)
Velocity envelope	CTRL+2 (in envelope window)
Velocity Range envelope.	CTRL+3 (in envelope window)
Velocity Change envelope	CTRL+4 (in envelope window)
Velocity Change Range envelope.	CTRL+5 (in envelope window)
Pan envelope	CTRL+6 (in envelope window)
Context sensitive help	Shift+F1 (for Parameter, RHS mouse menu shortcut)

To, then	Mouse - select
Toggle column width between min and max value	Double click on column header
Increase/decrease column width	Drag column header handle with left mouse button
Select entire envelope	Double click on envelope with left mouse button
Quickly apply envelope tool to envelope selection	Choose envelope tool first, then CTRL+left mouse button and mark the desired area
Apply envelope tool to marked envelope area	Mark area with left mouse button and then depress desired tool
Increase/decrease value with variable speed control	Anywhere in the cell and drag to RHS/LHS
Increase/decrease parameter value	Left mouse button on the value and drag double headed slider arrow left or right