Chapter 11 – Sampling

Sound Design Sampler (SDS) – Overview

The Sound Design Sampler (SDS) integrates sample-based playback of timeline and AudioBase clips into the EVO environment. It is a cost option to the system, so the following only applies to systems where this licence has been purchased.

The Sampler is always active whether the SDS layout is visible or not. Creating a New Project also creates an empty Sampler engine.

SDS works in mono and stereo. A stereo sound can be either a multichannel clip or two mono clips on adjacent selected tracks that have the same start position and length. All sounds will be automatically routed to the SDS Stereo output.

The SDS architecture consists of a Patch and Samples.

A Sample consists of a single sound, either mono or stereo, and its tone generator parameters.

A Patch is made up of one or more Samples. Each of the Samples has a key map which determines which MIDI notes play it, and which permits splitting or layering of the keyboard. A Patch also has its own parameters for global control of all its Samples.

When a Project is saved, the SDS Patch and Samples are saved in the Project as well.

Setup

Setting up SDS requires the following steps:

- Connect and configure MIDI keyboard
- Patch the Sampler output so it can be heard and recorded

MIDI Keyboard

Your MIDI keyboard must be installed before you run the Dream II software. Normally this is done using a USB driver installer that comes with your MIDI keyboard.

Once you start the Dream II software, click `Setup` ➔ `Instruments`. Identify your keyboard, and set it to play MIDI Channel 1.

Patching

The Sampler has a pair of stereo outputs, which must be patched to Live Inputs or Track Inputs. You should patch to Tracks if you wish to record the Sampler output, otherwise to Lives.

To do this:

Step 1 Select the Patch I/O page by pressing the `Patch` button in the Setup Megamode.

Step 2 Click `Instrument Inputs` in the lower left of the page

Step 3 Select `CMIGenerator 1` and `CMIGenerator 2` in the upper left of the page.

Step 4 Select `Track Inputs` or `Live Inputs` in the lower right of the page.

Step 5 Select any pair of the Track or Lives, and click the `Patch` button.

Step 6 Exit the Page I/O page by pressing the `Patch` button again, or by right-clicking

anywhere in the Patch page on screen.

Step 7 If you chose Tracks as your destination, make sure to arm them so you can hear the Sampler. This can be done by pressing the corresponding **Track buttons** in the Record Megamode.

The SDS is accessed via the SDS picture key in the Editor MegaMode.

Accessing SDS

SDS is accessed via the SDS picture key in the Editor MegaMode. This will cause display of the SDS Menu in the Pad. The rotary encoders will become available when you load some sounds.

Previewing and Loading Sounds into SDS

When the **Preview** soft key is ON, the MIDI keyboard ignores samples that are already loaded, and only previews new ones.

There are two sources of sound for SDS:

- From clips that are already on a track
- From Audiobase

Working with a Track

Select a Track with clips on it. Position the transport so that one of the clips is touching the cursor. The clip can be previewed or loaded into SDS.

Preview

To preview the clip:

Step 1 Make sure Preview is on. If not press the **Preview Soft key** in the Pad.

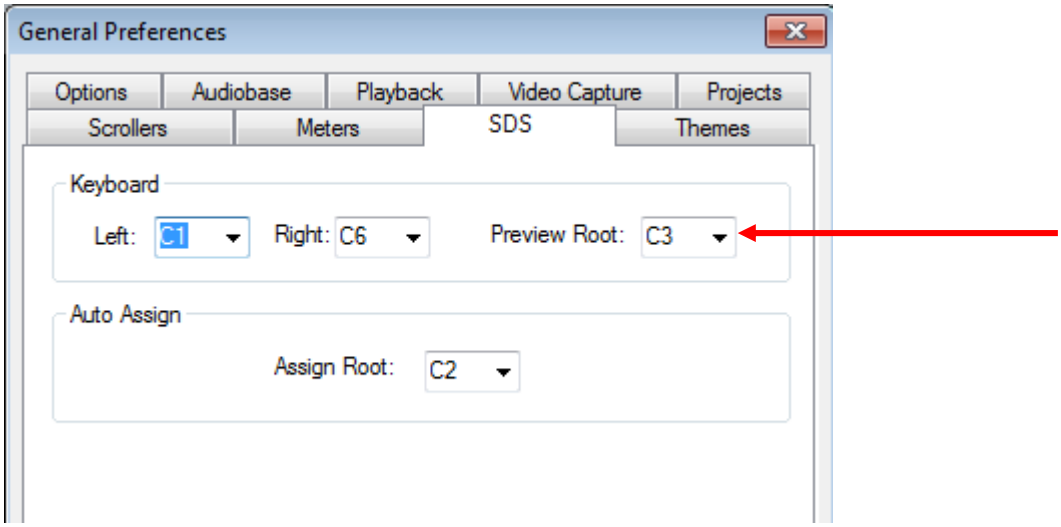
Step 2 Play notes on your **MIDI keyboard**.

The clip under the cursor will play as you press the notes, changing pitch as you move up and down the keyboard. As you move the transport to highlight a new clip, it immediately becomes the target of your MIDI keyboard.

Preview will play the clip at its original pitch on the keyboard's **Preview Root note**. To set this do the following:

Step 1 Click **Setup** ➔ **General Preferences**

Step 2 Click the **SDS** tab



Step 3 Set the `Preview Root` to be the keyboard note which original pitch is previewed

Step 4 Exit the dialog by clicking the `Close` box in the upper right corner

Note: `ADSR functions` are available while you are previewing. See "AHDSR and Modulation" below for details.

Load (Grab)

To load the clip under the cursor into SDS, press the `Grab` soft key.

The clip will be mapped to the keyboard at its original pitch, positioned at the `next available white key`. See "Within Audiobase you can perform a search, scroll the results and Preview them on the keyboard. Just as with clips on the timeline, if the SDS Preview is active, the highlighted sound in the search results list will be active on the sampler for playing/listening.

To load an AudioBase sound into the sampler press the `Grab` soft key. For convenience there is a new `SDS Preview` key on the AudioBase Smart Pane and a `Grab` key on the AudioBase PAD layout.

The keyboard behaviour for Audiobase sounds works the same way as for clips.

Removing Samples

You can remove any sample from the keyboard using the `delete` soft key.

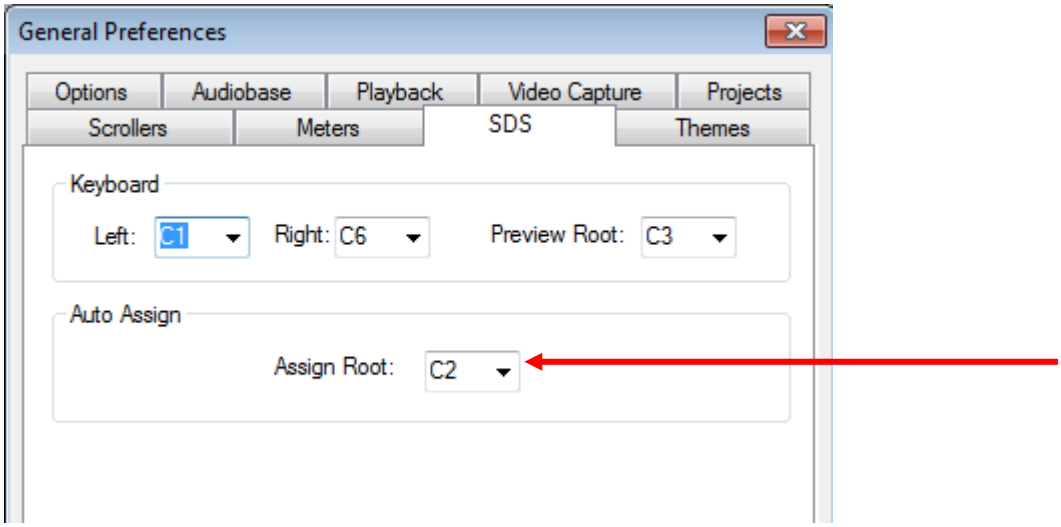
To select a sample for deletion, simply play it on the MIDI keyboard.

Keyboard Mapping" below for more options.

Note: the `first` available white key is set as follows:

Step 1 Click `Setup` ➔ `General Preferences`

Step 2 Click the `SDS` tab



Step 3 Set the **Assign Root** to be the keyboard note where the first sample will be grabbed.

Step 4 Exit the dialog by clicking the **Close** box in the upper right corner

Grabbing successive clips will place them, at original pitch, on a series of white keys.

You can also do the following:

- Grab a range of keys by making a range and pressing the **grab** soft key. They will be assigned to the next available range of white notes.
- Grab a clip at a different pitch by previewing the note at your desired pitch. Then hold down the **keyboard note** that plays that pitch, and press the **grab** soft key.

Working with Audiobase

Within Audiobase you can perform a search, scroll the results and Preview them on the keyboard. Just as with clips on the timeline, if the SDS Preview is active, the highlighted sound in the search results list will be active on the sampler for playing/listening.

To load an AudioBase sound into the sampler press the **Grab** soft key. For convenience there is a new **SDS Preview** key on the AudioBase Smart Pane and a **Grab** key on the AudioBase PAD layout.

The keyboard behaviour for Audiobase sounds works the same way as for clips.

Removing Samples

You can remove any sample from the keyboard using the **delete** soft key.

To select a sample for deletion, simply play it on the MIDI keyboard.

Keyboard Mapping

By default, SDS automatically assigns Samples to keys as they are Grabbed. But you have the option of using one of three modes for key assignment which are Single, Split and Layer.

On the SDS layouts there is a Softkey that cycles through **Single**, **Split** and **Layer**.

Single Mode

In this mode the first Grabbed sound will be assigned to the Assign Root Key and subsequent Grabs will add sounds to the next highest white key. This provides predictability of where Samples will appear on the keyboard. The set the Assign Root key, see "Load (Grab)" above.

Split Mode

If Split is selected, the keyboard will automatically be divided into equal splits based on the number of Samples in the Patch, and the size of keyboard as defined by the `Keyboard Left` and `Keyboard Right` parameters in `Setup` ➔ `General Preferences` ➔ `SDS`.

As more Samples are added, the split points will be updated automatically.

Each sample is played at its grabbed pitch in the center of its split. This is normally its original pitch, but it may have been grabbed at a different pitch by holding down a keyboard note while grabbing.

Layer Mode

If the Mode is set to Layer, each Sample will have the entire keyboard and will play simultaneously when a key is pressed.

AHDSR and Modulation

Both a Patch and its Samples have AHDSR envelope and filter parameters. The Samples use their own individual AHDSR envelope and filter, and the Patch values are global offsets to all the Sample settings.

Modulation is Sample based with controls for Tremelo and Vibrato.

Patch and Sample Modes

The `Patch/Sample` soft key toggles between Patch and Sample parameter setting.

When Sample is selected -

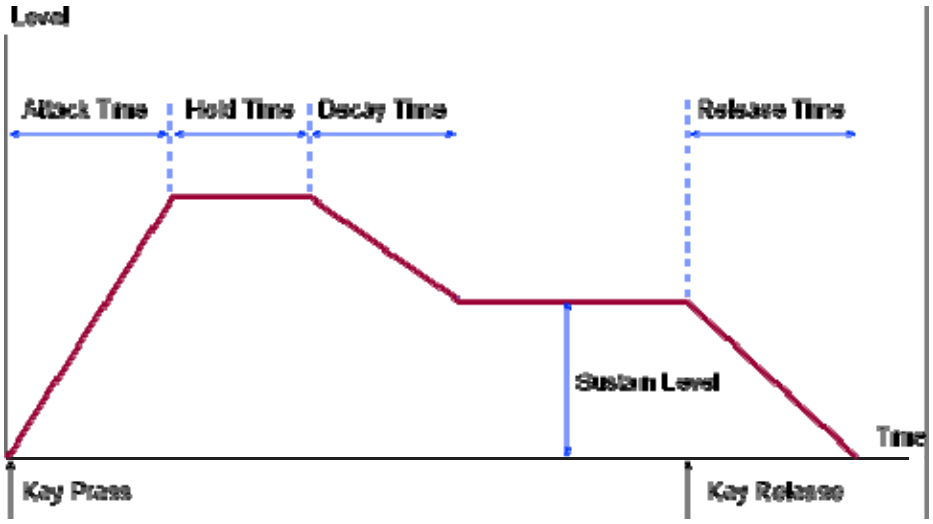
- All the controls work on the current sample (the one last played)
- The `Delete` softkey removes only the current sample

When Patch is selected -

- Modulation controls are not available
- The `AHDSR` controls affect all samples in the Patch, offsetting their individual values.
- The `Delete` softkey removes the whole patch, with all its samples.

AHDSR

The ADSR controls are Attack, Hold, Sustain, Decay, Release. These control the output volume of a particular sample, after its MIDI key has been pressed. These are illustrated below.



These terms are familiar to most synthesiser and sampler users, so they will not be explained here. See Wikipedia for further information.

To control the AHDSR parameters, use the rotary knobs at the sides of the Pad.

Note: To access parameters written in grey in the lower part of each section, hold down the `ALT button`.

Other Controls

Filter	This is a low-pass filter
Resonance	Boosts the signal at the turnover frequency of the filter
Level	Sets the maximum playback level of the sample
Distortion	Adds third-harmonic distortion to the sample

For Patch settings only:

Pitch Bend	On-off
Pitch Range	The maximum pitch bend for the patch
Portamento	On-off
Glissando	On-off
P/G rate	The speed of portamento or glissando between successive notes

Modulation

To display Modulation parameters, press the `Mod` softkey. This toggles the layout between its normal AHDSR display and the Modulation parameter display. The Modulation controls include:

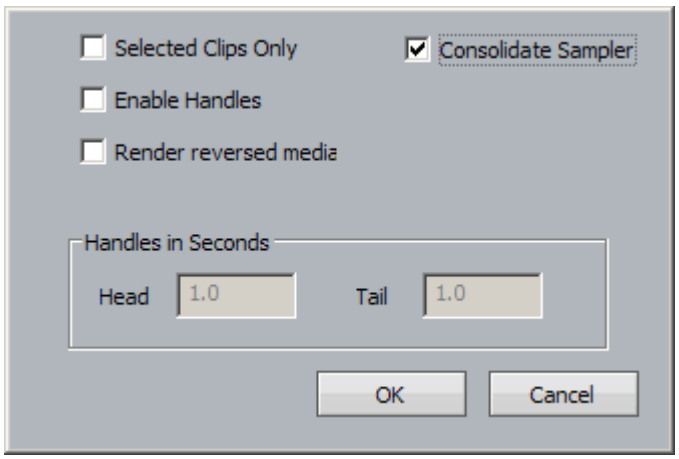
Vibrato	On-off, depth, speed, attack and delay
Tremolo	On-off, depth, speed, attack and delay

Saving SDS

The SDS samples and settings are saved with the current project.

Media Considerations

SDS samples can be located anywhere in your disk system. To bring them all together into the current Project folder, use the Localise Audio command in the Process Menu.



Select the Consolidate Sampler checkbox to ensure that your SDS samples are included in the consolidation.

Backup to Folder operations also take SDS samples into consideration. This is done automatically.