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Getting Started

WELCOME!!!

Thank you for choosing Dream Station! You've just installed our software-only, virtual analog workstation. Dream Station has simply everything needed for most modern computer music composing! Virtual analog synth, wavetable synth, sequencer, mixer, effect processors, ALL IN ONE! We deliver a high performance multimedia application featuring professional signal processing techniques to realize top quality sound, previously unheard in this category! Dream Station utilizes physical models of analog circuits, mathematical reproduction of analog oscillators which makes Dream Station acting just like real analog synthesizers! A wide range of synthesized sounds can be reproduced using Dream Station, the old classical analog instruments goes without saying but also new and exciting sonic textures never heard before. Finally, every musician's dream has come true. A complete high-quality production studio all integrated in one single piece of software. It sounds like a dream, and it is as easy and intuitive as a dream to use. It is the **Dream Station!**

You are asked to set up the sound card and MIDI settings of Dream Station in the preferences dialog box which can be found in the *OPTIONS* menu before you begin the real work.

Some useful hints to start with;

- Load the demo songs supplied with this package to listen to Dream Station.
- Press SPACE to start/stop the songs. Pressing space in the pattern editor plays and repeats the current pattern only, pressing space in the musicparts editor plays the whole song.
- Press ENTER in the pattern editor inside the command window to display all available commands.

Please refer to the Using Dream Station topic to learn more about how to compose using Dream Station. Happy composing!

Synthesizer Reference



Overview

Dream Station has got three oscillators for each voice to generate audio signals required for synthesizing electronic instruments. Further modulations and filtering are responsible for shaping these signals to sound more complex or realistic. [Frequency modulation](#), [ring modulation](#) and [hard synchronization](#) are available between oscillator 1 and 2. The filter module supports various filter types to eliminate/emphasize specified frequencies in the final output. Three [ADSR envelope](#) generators (each one individual for the amplifier, filter and a user defined EG for general purpose), one LFO, vibrato and portamento are available in the modulation section.

Specified modules have got an on/off switch. You can toggle the modules on/off by clicking on their name or by pressing the led representing their state. If you aren't using all of the modules to build up an instrument you have to switch the unused one(s) off. This results in less CPU consumption, yielding improved performance. Oscillator 1 and the amplifier must be turned on all the time, since they are the minimal requirements to form a sound.

Oscillator 3 can not be used unless oscillator 2 is already active.

See the different modules detailed below...

OSCILLATOR SECTION



Waveform

One of the six different waveforms (sine, triangle, sawtooth, pulse/square, noise, or PCM based samples) can be selected as the shape of the specified oscillator. Oscillator 1 has got a width adjustable pulse generator, while oscillator 2 and 3 have got fixed square waves. You may replace the traditional waveforms with 16bit mono samples, and even use them for FM/ring modulation. See [sample selector](#) and [waveforms](#) for more information.

Tune/Fine

...does the tuning/fine tuning of the oscillator. When keyboard tracking is enabled the *tune* knob holds 4 (-2/+2) octaves. If not, *tune* will represent the whole frequency range that Dream Station can output.

Kbd-trk

Connects the oscillator to the keyboard (keyboard tracking). By turning *Kbd-trk* off you can disconnect the oscillator from the keyboard so that it always outputs the same note no matter which key is pressed.

Pwidth

The *Pulse width* knob sets the width of the pulse wave in oscillator 1. See [waveforms](#) for more information.

PWM

Stands for Pulse Width Modulation. Modulates the pulse width parameter of oscillator 1 with a constant "PWM" speed.

FM

Sets the amount of Frequency modulation between oscillator 1 and 2. See [modulations](#) for more information.

S/R

Switching *sync* turns the hard synchronization on/off between oscillator 1 and 2. Switching *ring* turns the ring modulation on/off between oscillator 1 and 2. See [modulations](#) for more information.

VOL

Sets the volume of oscillator 2 and 3. This parameter is being ignored if the user envelope is active and connected to "V2" (volume of oscillator 2).

AMPLIFIER



The amplifier (as its name tells) is responsible for making the audio signal generated by the oscillators audible. There is an [envelope generator](#) connected to the amplifier which controls the volume over time. *Gain* represents the overall volume of the sound.

FILTER



The filter eliminates and/or emphasizes frequency components/harmonics of the output from the oscillator section. There are five different types and an [envelope generator](#) available to use with this module.

Cutoff

Sets the cutoff frequency of the filter. A lowpass filter cuts all harmonics above the cutoff frequency, a highpass below the cutoff frequency. At the rightmost position, the cutoff frequency is very high (above 19 kHz), at the leftmost position it is very low (around 20 Hz).

Reso

Sets the resonance of the filter. A resonant filter (like the filter of Dream Station) is capable of turning specified harmonics louder than their original volume. Resonance is the amount of this emphasis. Frequencies will be emphasized around the cutoff frequency. If the resonance is too high when using **LP1** and **HP**, the filter will act as a very soft sine wave oscillator. A

new frequency component will be present at the cutoff frequency (self oscillation).

Mode

Sets the filter type.

LP1 - Lowpass 1, 2 pole 12dB/octave steep lowpass filter with resonance (capable of self oscillation).

LP2 - Lowpass 2, 4 pole 24dB/octave steep lowpass filter with resonance.

HP - Highpass, 2 pole 12dB/octave steep highpass filter with resonance (capable of self oscillation).

BP - Bandpass, 2 pole 12dB/octave steep bandpass filter with resonance.

FMT - Formant, 4 pole 24dB/octave steep lowpass formant filter with tone control.

As stated above, lowpass filters cuts above the cutoff frequency (passing through frequencies below cutoff), highpass works the other way around by cutting below the cutoff frequency (passing through frequencies above cutoff), bandpass cuts both below and above the cutoff frequency. Formant filter is a special architecture designed to synthesize human speech. The resonance knob represents the tone of the filter in this case.

Kbd

When this toggle is turned on, the key being played on the keyboard will affect the cutoff frequency. This means that the cutoff frequency will be shifted with the same amount as the pitch.

LFO



LFO stands for Low Frequency Oscillator. It is used to modulate specified parameters of other modules, similar to the [envelope generators](#). The LFO has got its own waveform (sine, sawtooth, pulse/square or noise) and frequency.

Dest

Sets the destination of the LFO.

O1 - The LFO will modulate the frequency of oscillator 1.

O2 - The LFO will modulate the frequency of oscillator 2.

PW - The LFO will modulate the pulse width of oscillator 1.

FLT - The LFO will modulate the filter's cutoff frequency.

Wave

Selects the waveform of the LFO.

Depth

Sets the amount of modulation of the LFO.

Rate

Sets the modulation speed of the LFO.

USER ENVELOPE



The user envelope is a standalone envelope generator. It may be used for general purpose modulations, to modulate one of the six parameters available in the destination section.

Dest

FM - The user envelope will modulate the amount of frequency modulation.

PW - The user envelope will modulate the pulse width of oscillator 1.

O1 - The user envelope will modulate the frequency of oscillator 1.

O2 - The user envelope will modulate the frequency of oscillator 2.

V2 - The user envelope will modulate the volume of oscillator 2.

FLT - The user envelope will modulate the cutoff frequency of the filter.

VIBRATO



The vibrato module is responsible for the vibrato effect, slightly modulating the frequency of all oscillators. It has got no on/off switch, but is turned off in the case depth or rate is set to zero.

Delay

With this parameter, you can set the delay of the vibrato effect.

Depth

Sets the amount of vibrato.

Rate

Sets the speed of vibrato.

PROGRAM



The program module is the last unit in the synthesizer of Dream Station. This is the place where you have to make the "overall settings" of the sound. You may change the name of the preset by clicking on the "NOT USED" sign.

Porta

Portamento speed. When portamento is set to zero there is no portamento, instead notes are following each other immediately without sliding. If portamento is being used (knob is set to a value), changing notes takes longer since it's sliding in pitch from note to note.

Keyoff

Keyoff is an automatic "note-releaser". If it is set to zero, the sound will release when you release the key on the keyboard (or in the sequencer). If it is set to a higher value, the sound will release automatically, depending on the setting of the keyoff knob. The higher

the setting, the later the release of the sound (automatically). This is useful to create analogic drumsounds for example.

Tie note

”Ties” the notes together. If ***Tie Note*** is turned on, the sounds won’t retrigger until passing a **CUT** command in the internal sequencer. This effect is known as *legato*. ***Tie Note*** has no effect on MIDI triggered notes.

Dist

Amount of distortion used on this sound. The higher the setting, the dirtier the sound gets. Default, zero value, means no distortion.

Output channel

Routes the current sound to a specified channel on the mixer.

Store

Stores the sound to the selected preset.

Sound number

Selects between stored presets.

Pattern & Musicparts Editor Reference

Overview

The built-in sequencer of Dream Station makes it possible to use the software as a standalone music synthesizer application. You don't need to have an additional MIDI sequencer to drive Dream Station, it is however possible to use it with your own favorite sequencing software/hardware.

The built-in sequencer is pattern oriented. This means that the user has to organize his/her music into shorter patterns/sequences/musicparts, then chain these parts together to create a full song. The past ten years or more have proved that this way of composing music is the most effective, fastest and easiest way to create electronic-, computer-, acid-, techno (etc...) music styles.

The pattern editor



A pattern

The pattern editor has got 1/4/8/16/24 or 32 tracks and 16/32/64/128/24/48 or 96 steps. When using 16/32/64 or 128 steps long patterns, four steps equals a beat by default. When using 24/48 or 96 steps long patterns, a beat consists of six steps. The resolution and length of patterns can be selected in the EDIT menu.

Each track consists of three columns. Two command and one note column. As the song position bar moves ahead in the song, that is the order in which the sequencer will process the data. You have to put each note (or command) after one and another in the order you want to hear them.

Commands and notes.

The commands are very similar to the MIDI controllers. Each command has got a name (a one character identifier) and a value from 0 to 99. These commands (controllers) can modulate parameters such as filter cutoff value, amplifier gain (volume), volume fader on the mixer, effect send amount, ..., even retrigger envelopes or the LFO. The notes are the musical notes. The lowest note is C-0 and the highest B-8, making Dream Station spanning over 9 octaves.

Usage of the commands and notes.

You may use a maximum of two commands in the same step within each track. This is supposed to be enough, even for quite a complex tune, considering that modulating parameters (like filter cutoff) can be solved in other ways, like automation. When the cursor is yellow, you can place a command or note by pressing the appropriate key representing the command/note standing on the required position. When the cursor is red, typing is disabled. This is useful to preview/prehear a sound during its creation without entering any notes into the sequencer by mistake. You can toggle the color (write state) of the cursor by pressing ENTER standing in the note's column. The commands' keyboard shortcuts are the

same as their name/letter identifying them. Pressing ENTER at the commands' place in the sequencer opens up a menu containing the available commands.

Available commands;

Txx - Transpose oscillator 2 & 3. After processing this command, the selected instrument's oscillator 2 and oscillator 3 will be transposed depending on the **xx** value. The number entered at the position of the first **x** will transpose oscillator 2, the number entered at the position of the second **x** will transpose oscillator 3. By using this command, you can build up a chord using only one voice (using a 3 osc instrument).

Ixx - Instrument. Selects an instrument from the presets to use in the track. You may use this command, and select/reselect an instrument at any position for as many times that you want during the pattern. Usually, instruments are being selected at the first position in a pattern. The **xx** parameter represents the number of preset to be selected.

Sxx - Slide to note. This command slides/glides from a note to another note. This command usually needs two notes to operate. One note (the beginning note) at the same position where the command is standing, and one note (the destination note) in the next position. To avoid the retriggering of the second note, use the SHIFT key when typing it (see legato below). If there is only one note available (in the same position where the command is entered) then it will become the destination note and the previously played note will be interpreted as the beginning note. The **xx** parameter will represent the speed of the slide.

Bxx - Vibrato. Activates a custom vibrato effect. The first **x** of the parameter represents the depth of the vibrato, the second represents the rate of the vibrato.

Vxx - Set volume on mixer. This command sets the volume of the channel where the currently used instrument is being routed. If the used instrument is 01 and is being routed to channel 3 on the mixer, this command will set the volume of channel 3.

+xx - Increase volume on mixer. Increases the volume of the channel where the currently used instrument is being routed.

-xx - Decrease volume on mixer. Decreases the volume of the channel where the currently used instrument is being routed.

Pxx - Set pan on mixer. This command sets the panorama of the channel where the currently used instrument is being routed. The value 50 represents the middle position/dead center, 00 is the leftmost and 99 is the rightmost position.

Fxx - Set filter cutoff mod.value. Adds the parameter of this command to the filter cutoff value.

Gxx - Set filter envelope mod.value. Adds the parameter of this command to the filter's envelope gain value.

Exx - Set amplifier envelope mod.value. Adds the parameter of this command to the amplifier's envelope gain value.

1xx - Set FX1 send on mixer. Sets the effect send amount to the FX processor 1 of the channel where the currently used instrument is being routed.

2xx - Set FX2 send on mixer. Sets the effect send amount to the FX processor 2 of the channel where the currently used instrument is being routed.

Oxx - Set sample offset. Sets the starting position of the samples used by the instrument in the track. The parameter of this command is interpreted in percents. Parameter 00 means the original starting position: zero. Parameter 50 will cause the samples to start in the middle. Selecting a new instrument sets this value back to the default zero.

X01 - Retrigger LFO. Restarts/retriggers the low frequency oscillator.

X02 - Retrigger filter. Restarts/retriggers the filter's envelope without restarting the sound itself.

X03 - Retrigger user envelope. Restarts/retriggers the user envelope without restarting the sound itself.

Keys representing the notes;

key **A** = **C-4**
key **W** = **C#4**
key **S** = **D-4**
key **E** = **D#4**
key **D** = **E-4**
key **F** = **F-4**
key **T** = **F#4**
key **G** = **G-4**
key **Y** = **G#4**
key **H** = **A-4**
key **U** = **A#4**
key **J** = **B-4**
key **K** = **C-5**
key **O** = **C#5**
key **L** = **D-5**
key **P** = **D#5**

Octaves can be selected by pressing the number keys from 0 to 8. If you press the notes while holding the SHIFT key down, the notes will appear in inverse in the sequencer. The inverse notes won't be retriggered, only their note will be validated/updated. This effect is called *legato*.

The following two commands have to be set in the note column instead of the command column:

END - Ends the current pattern before its original end. This should be used in cases where the music's structure requires a special starting/ending or bridge part which differs in size from the original length of the other patterns. **Press key ~ (waved line)** to put an END command for every track. Every track must have the END command set at the same position!

CUT - Releases the previously triggered note. **Press key = (equal)** to put a CUT command.

You may put an empty step or clear a note using **key - (minus)**.

Special keys;

F5 - Selects the whole pattern.

F6 - Selects current track.

F7 - Clear selection.

F8 - Toggles the state of current note between normal and legato mode.

Shift + , or < - Transpose selection/current track up.

Shift + . or > - Transpose selection/current track down.

The musicparts editor.



Each pattern has got a number. This number identifies the pattern itself. In the musicparts editor, you have to build up a song by chaining, listing these numbers (patterns) in the order you want to hear them. For example, if you list (pattern) 00 two times one after the other, pattern 00 will be played two times. At the end of the list, you may press **G** to jump (loop) back to a specified position, or press **S** to stop the music. There is a possibility to transpose the patterns with different amount in different positions.

AUTO and NEXT buttons

These buttons may help you during a live performance with Dream Station. When the *AUTO* button is turned on, the sequencer will play the next pattern in the list once the playing of the previous pattern has finished. If it is turned off, the sequencer won't step ahead, it will repeat the pattern at the current position until you press the *NEXT* button. In this case, the sequencer will move one step ahead in the pattern's list once the current pattern being played ends. If both *AUTO* and *NEXT* button are turned on, the sequencer will repeat the current pattern.

Allocating new pattern.

SHIFT+Insert allocates a new and empty pattern.

Note: The keyboard shortcuts stated in this help file are valid for the US keyboard layout. Other keyboards may have different keyboard shortcuts, for example the german keyboard has the key **Z** and key **Y** exchanged...

Mixer Reference



Overview

The mixer module is responsible for sending different audio signals to the effects processors' desired input as well as mixing signals coming from the different voices of the synthesizer module into a recordable two-track stereo song. You may group as many instruments as you desire to a single channel, adjust volume, panorama control and depth/amount of effects to mix the final material. You can mute the channels by clicking on their names. Level meters help you avoid overloading, causing distortion, on the channels. Keep the meters below the last yellow/first red led.

Volume fader

Sets the individual volume on each channel.

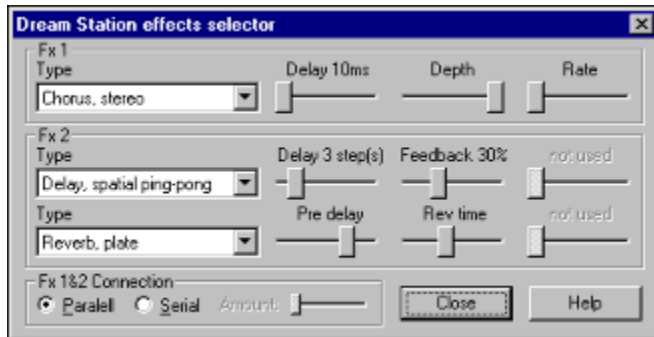
Pan

Sets the channels position in the stereo output.

Fx

Sets the depth/amount of effects (FX send) in the channel. The upper knob sets the amount of FX1, the lower one sets the amount of FX2.

Effects Reference



Overview

Dream Station contains a dual stereo effects processor (FX1 and FX2). The second effect processor (FX2) consists of two further effect processors giving a possibility to use up to three different effect types within a song. Audio signals can be routed to the effect processors through the [mixer](#).

FX1 and 2 Connection

You may connect the output of the first effect processor (FX1) to the input of the second effect processor (FX2). The amount sets the feed volume.

Effects detailed:

DELAY

Delays the input with the specified amount of steps. Therefore, the exact delay time depends on the tempo of the internal sequencer.

Types;

digital - simple, mono delay.

stereo - reflections are panned/heard on the other side of the stereo setup.

spatial - similar to stereo, except that reflections are 3D enhanced.

spatial ping-pong - similar to spatial, except that reflections are "jumping" from side to side.

Parameters;

DELAY and FEEDBACK.

PHASER

Phaser (phase shifter) is an effect, that shifts the phase of the frequency components in the audio signal. This results in notches within the output spectrum after mixing the original and phase shifted signals together (due to interference).

Types;

mono - simple mono phaser.

spatial - the different output of left and right channels results the notches to exist in the air.

Parameters;

PHASING SPEED, SWEEP DISTANCE and FEEDBACK.

FLANGER

Flanger is a very similar effect to the phaser. One of the differences is that the flanger creates equally spaced notches in the audio spectrum while phaser doesn't. This results in a different sounding effect.

Types;

mono - simple mono flanger.

stereo - stereo flanger.

Parameters;

FLANGING SPEED, SWEEP DISTANCE and FEEDBACK.

CHORUS

The chorus effect reproduces delay and slight differences in pitch of a band/chorus playing in unison.

Types;

mono - simple mono chorus.

stereo - stereo chorus.

dual-voice stereo - two voices are used with different delays to make the chorus effect richer.

Parameters;

DELAY, DEPTH and RATE.

REVERB

Reverberation belongs to the most widely used effects. It is intended to simulate the series of echoes of a sound source placed in a room or closed area.

Types;

room - reproduces the characteristics of a small/medium room.

hall - reproduces the characteristics of a medium/big hall. High frequencies are damped.

plate - reproduces the characteristics of a plate reverberator. Output is rich in high frequencies.

Parameters;

PRE DELAY, REV TIME.

Menu Reference

FILE

NEW - Clears the current song.

OPEN... - Opens a new Dream Station Song.

SAVE - Saves the current song.

SAVE AS... - Saves a new Dream Station Song.

PLAY/STOP - Plays the song from the beginning/stops playing.

SONG INFORMATION... - Shows song information dialog.

EXPORT SONG AS WAVE FILE... - Exports the Dream Station Song to a wave file.

CAPTURE OUTPUT TO WAVE FILE... - Sets up the capturing of Dream Station's output to a wave file.

START CAPTURE - Starts the capture of Dream Station's output.

STOP AND SAVE CAPTURE - Stops the capture, and closes the captured file.

EXIT - Quits Dream Station.

EDIT

UNDO - Invalidates last action.

CUT - Cuts the selection.

COPY - Copies the selection into the copy buffer.

PASTE - Pastes copy buffer to the current position.

DUPLICATE - Duplicates current pattern.

SELECT ALL - Marks whole pattern as selection.

SELECT TRACK - Marks current track as selection.

COPY TWEAKING - Copies automation data of the current position to the copy buffer.

PASTE TWEAKING - Pastes copy buffer of automation data to the current position.

FORMAT PATTERNS... - Changes the length of patterns.

SET STEPS PER BEAT... - Sets the number of steps in a beat.

SOUNDS

COPY SOUND - Copies current sound into the copy buffer.

PASTE SOUND - Pastes copy buffer into the current sound.

UNDO CHANGES - Invalidates tweakings made in the current sound.

LOAD SOUND... - Loads a Dream Station Instrument into the current sound.

SAVE SOUND... - Saves current sound as a Dream Station Instrument.

RESET KNOBS - Clears current sound.

RANDOMIZE SOUND - Generates a random sound.

SAMPLES... - Shows the sample organizer dialog.

SAMPLE SPLITS... - Shows the sample split editor dialog.

EFFECTS... - Shows the effects selector dialog.

OPTIONS

PREFERENCES... - Shows the [preferences dialog](#).
MIDI MAPPER... - Shows the [MIDI mapper dialog](#).
SYNC TO EXTERNAL MIDI CLOCK - Synchronizes Dream Station's internal sequencer to an other/external MIDI sequencer.
KEEP DREAM STATION ON TOP - Keeps Dream Station's window always on top.
MIDI WRITES INTO SEQUENCER - Lets you to use your MIDI masterkeyboard to enter notes into the sequencer.
TRANSMIT KNOB TWEAKINGS - Transmits the tweaking of the knobs through MIDI.
FOLLOW SONG POSITION - Makes Dream Station's sequencer display to follow the actual song position.
AUTOMATION - Shows and enables [automation](#).
OSCILLOSCOPE - Shows a small oscilloscope tracking the output.

HELP

HELP CONTENTS - Shows the help contents.
VISIT DREAM STATION HOMEPAGE... - Visits Dream Station's homepage, where you can download new stuff for this software.
VISIT MAZ SOUND TOOLS HOMEPAGE... - Visits our sponsors.
VISIT TECHNO.ORG THE EUROPEAN TECHNO GUIDE... - Visits our sponsors.
VISIT DANCETECH.COM THE DANCE MUSIC MEGASITE... - Visits our sponsors.
ABOUT DREAM STATION... - Credits for Dream Station.

TOOLBARS

Full mode toolbar



Play/Stop button

Starts or stops playing the music. If you press this button while standing in the pattern editor, Dream Station will play and repeat the pattern you are editing. If you press it in the musicparts editor, Dream Station will play the whole song beginning from the current position.

Tempo

Sets the tempo (speed) of the current song.

Icons

1. Song information
2. Sample organizer dialog
3. Sample split editor
4. Effects selector
5. Preferences dialog
6. MIDI mapper
7. Automation
8. Oscilloscope
9. STOP! Panic!

Position

Shows the actual position of Dream Station's internal sequencer.

MIDI

Red led indicates incoming MIDI messages.
Green led indicates outgoing MIDI messages.

Sound module toolbar



Delay tempo

Sets the tempo (duration) of the current song.

Icons

1. Song information
2. Sample organizer dialog
3. Sample split editor
4. Effects selector
5. Preferences dialog
6. MIDI mapper
7. Enable/disable the transmitting of knob tweakings thru MIDI.
8. Oscilloscope
9. STOP! Panic!

MIDI

Red led indicates incoming MIDI messages.
Green led indicates outgoing MIDI messages.

Using Dream Station

1. Using Dream Station with its own internal sequencer.

Dream Station features an easy-to-use 32 track step time sequencer. This built-in sequencer is in direct connection with the synthesizer engine and its voices, so it is the most performance economical way to compose a song with it. There is no need to run another software in parallel on the same computer in this case. See the [Pattern and Musicpart editor reference](#) and [automation](#) for more information on using Dream Station's internal sequencer.

2. Using Dream Station as a standalone MIDI sound module.

Dream Station's synthesizer engine can be controlled by any external MIDI sequencer. This means that you may disable (see [preferences](#)) the internal sequencer of Dream Station and use your favourite sequencing software to drive Dream Station. In this case, you have to set up the MIDI map in the [MIDI mapper](#) dialog box to assign the sounds of Dream Station to specified MIDI channels. This way of using Dream Station will require you to set up a very fast response in the [preferences](#) dialog. It is not suggested to use Dream Station as a standalone MIDI sound module with higher response time than 40ms!!!

Dream Station MIDI ports

Dream Station comes with its own MIDI ports. Dream Station MIDI-In and MIDI-Out serves as the connection between Dream Station and any MIDI compatible software/device. All knobs, switches and faders are assigned to individual MIDI controllers in Dream Station. You can record any tweaking of any knob/switch/fader that you perform in Dream Station with an external sequencer. All you have to do is to enable Dream Station's MIDI-Out for recording in the external sequencer. After you have set up the [MIDI map](#) and enabled the *Transmit knob tweakings* toggle in the OPTIONS menu, all tweakings you make on a sound will be transmitted to the external sequencer on the right channel you have assigned the sound to. Volume, pan and effect send knobs will be transmitted on MIDI channel 16!
- [Take care](#) on recording the tweakings to the right track in the external sequencer!
- Turn off the *Transmit knob tweakings* toggle if you no longer record the tweakings.

Tip: To eliminate the latency between Dream Station and other devices driven by the external sequencer, you should shift those tracks back in time with the amount of the latency.

To capture the audio output of Dream Station you should set up a MIDI synchronization and follow the instructions in point 3, or select the *Capture output to wave file* point in the FILE menu and start/stop the capture manually using the F3 and F4 keys.

3. Using Dream Station's internal sequencer synchronized to another MIDI sequencer.

We suggest doing it this way in the case you couldn't achieve an acceptable response time of the synthesizer engine on your system or if you just want to take the advantages of the easy composing in the internal sequencer, although combining it with an external MIDI

sequencer is a requirement. You can easily add analog leads, solos and basslines to your MIDI music.

The song must be completed in the same way you would compose under usual circumstances - without MIDI synchronization (See [Pattern and Musicpart editor reference](#)), except that you should not use the END command (which would mess up the Song Position Pointer). Then set up your external MIDI sequencer (refer to its user's manual) to generate and send MIDI clock to Dream Station through its selected MIDI port. It is very important to enable the following options; "*Transmit Start/Continue/Stop/Clock*", "*Use start, never continue*" and "*Transmit MIDI Song Position Pointer*" - to establish a usable synchronization. At last, you may enable the synchronization at the OPTIONS menu with the *Sync to external MIDI clock* toggle in Dream Station.

There is no need to shift/delay the tracks in the external sequencer to avoid the lag caused by the slower response of Dream Station, since it contains an automatic compensation mechanism, which tries to eliminate this lag by slightly fast forwarding Dream Station in the first beat with the amount of the lag. This mechanism is turned off at higher responses than 100ms, however please do not use a higher response time than 40-50ms.

To capture the audio output of Dream Station during MIDI synchronization, you must select the *Capture output to wave file* point in the FILE menu. After setting the file name, you have to press START/PLAY in the external sequencer. Dream Station will start and stop the capture automatically depending on the actions you make in the external sequencer.

PERFORMANCE WARNING!

DREAM STATION CONTAINS STATE-OF-THE-ART DIGITAL SIGNAL PROCESSING TECHNIQUES TO REALIZE AN AWESOME TOP QUALITY SOUND WHICH REQUIRES HIGH PERFORMANCE PROCESSORS AND COMPUTERS. DREAM STATION MAY CAUSE YOUR SYSTEM TO DRAMATICALLY SLOW DOWN OR EVEN LOCK UP BY RESERVING ALL CPU RESOURCES!!! PLEASE FOLLOW THE INSTRUCTIONS ON SETTING UP THE SOUND CARD AND RESPONSE TIME PROPERLY! AVOID THE OVERLOADING OF YOUR SYSTEM BY USING TOO MANY VOICES, EFFECTS AND FEATURES OF DREAM STATION!

Troubleshooting

This section tries to answer your questions/problems which should occur while using this software. If you can't find a solution to your problem here, then contact us via the internet and send us an e-mail with the exact description of the problem.

Q: When I press START or SPACE, Dream Station repeats the same pattern all the time!

A1: Yes, because the cursor is in the pattern editor. Click to the musicparts editor with the mouse then press START or SPACE again.

A2: The play mode at the bottom of the screen is not set to AUTO mode.

Q: I enter the notes into the sequencer, but I can't hear the music, though the sequencer is playing.

A: You have to set the instrument numbers aswell! To understand how does it work, check the "Set the instrument number automatically" option in the preferences dialog and try again.

Q: I cannot use the Dream Station MIDI ports. I get initialization errors when I select them.

A1: The MIDI drivers are not present! Probably the installation didn't succeed, because there are already too many MIDI drivers installed on your system. Windows 95 and 98 can hold a maximum of 10 MIDI drivers.

A2: Restart Windows and try again.

Q: Dream Station doesn't seem to process the incoming MIDI messages!

A1: The MIDI in driver/device is not set properly in the preferences dialog.

A2: Probably the "free audio device when stopped" option is enabled in the preferences dialog. Disable it!

Q: Dream Station doesn't send any MIDI message to the external sequencer.

A1: The MIDI output driver/device is not set properly in the preferences dialog.

A2: The "Transmit knob tweakings" option isn't enabled in the Options menu.

Q: I am tweaking a knob of a sound, but Dream Station spoils another sound, too.

A: The "Transmit knob tweakings" option is enabled, Dream Station sends MIDI messages to the external sequencer which loops it back to Dream Station, but not on the right channel! Dream Station interprets this as it should tweak the knobs of the sound, which is assigned to the channel, on which the sequencer sends the MIDI messages. Turn the "Transmit knob tweakings" always off when you aren't recording tweakings!

Q: Dream Station doesn't want to export my song into a wave file.

A: You have to set the end of your song in the musicparts editor before you could export it. Dream Station cannot export looped songs.

Q: I cannot turn on "Preview note" in the preferences dialog.

A: Probably the "Free audio device when stopped" is edabled. Disable it!

Legal notes

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Frequency modulation

Frequency modulation means summing the frequency of OSC1 and the output signal (waveform) of OSC2. The output of OSC2 (used for the modulation) is preamplified with the **(FM)** *FM Amount* parameter. If *FM Amount* is zero, then there is no frequency modulation (because modulation factor is always zero).

Ring modulation

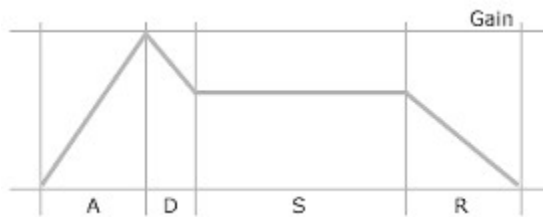
When ring modulating OSC1 and OSC2 together, the oscillators' outputs are multiplied (ring modulated) by each other and the result is taken as the output of OSC1.

Synchronization

When synchronizing OSC1 to OSC2, OSC1 restarts synthesizing the selected waveform in any case when OSC2 sends a sync signal to OSC1. OSC2 sends the sync signal every time when OSC2 restarts synthesizing its own waveform. Therefore synchronization by nature only occurs in the case OSC1 and OSC2 have got different frequencies. Samples cannot be synchronized.

You may apply all of the three modulation possibilities at the same time.

ADSR envelope generator.



ADSR envelope.

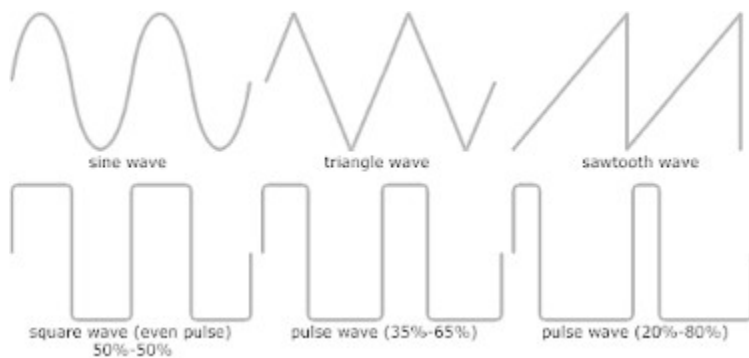
Every envelope generator generates a control signal used to modulate different parameters of other modules. In Dream Station there are three separate EG (envelope generator) units per voice; one connected to the amplifier (modulating volume), one to the filter (modulating cutoff frequency) and a third EG for a user defined purpose.

An EG has got five parameters; (**A**) *Attack* determines the time/speed when the control signal rises up from zero to the maximum (**Gain**) *gain level*, (**D**) *decay* determines the time/speed at which the control signal falls down from the *gain level* to the (**S**) *sustain level* and (**R**) *release* represents the time/speed when the signal falls down from the *sustain level* to zero. The EG will keep the control signal at the *sustain level* (won't release) as long as the key is pressed on the keyboard or until a **CUT** command/new note is reached in the internal sequencer.

Example:

The *gain level* of the EG connected to the Amplifier represents the volume of the voice.

Waveforms.

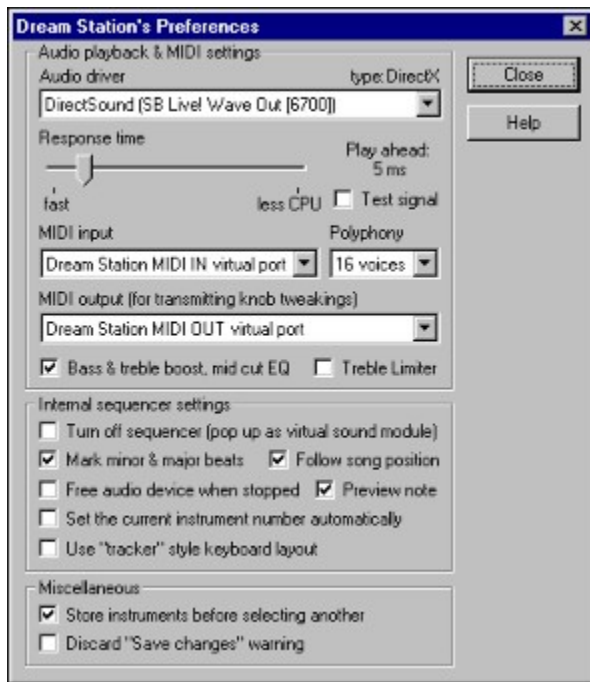


Traditional waveforms

Waveforms are the output signal values in time of the oscillators (which are generating them). Every shape has got its own characteristic sound. *Sine* and *triangle* waves are used to synthesize instruments like flute, *sawtooth* is the basis of strings, and *square* emulates the clarinet for example. *Square* is a special form of *pulse*, when the "ups" and "lows" are following each other in equal time intervals. *Pulses* could be used to imitate harpsicord for instance. *Noise* has got no specified waveform, it is a random signal generally used for synthesizing snare drums or wind.

Dream Station allows you to set the width factor of the *pulse* in the first oscillator between 1%-99% and 50%-50%, of course without any digital noise. If the **Pwidth** knob is tweaked to its rightmost position and the *pulse* has got 50%-50% width factor, we are talking about an *even pulse* or a *square*. At the leftmost position the *pulse* is very low/soft, because the width factor is 1%-99% and the oscillator has got nearly no time to rise up.

Preferences dialog.



Overview

You have to set the preferences of Dream Station in this dialog box. It is very important to set the audio playback settings properly! If they aren't set the right way, Dream Station will react very slowly to any action you make on the synth panel, and the audio output may be stuttering and distorted!

Audio playback & MIDI settings.

Audio driver: - Selects the audio hardware to use with Dream Station.

Type: - Indicates the type of hardware driver. However, MME drivers are also enabled, please use a DirectX driver!

Response time: - This fader adjusts the response time (latency) of the synthesizer engine.

Play ahead: - Shows the latency of the synthesizer engine. All actions (you make) will delay with this time lapse.

Test signal: - Turns a test signal on/off which helps finding the shortest possible response time.

MIDI input: - Selects the MIDI input driver.

MIDI output: - Selects the MIDI output driver.

Polyphony: - Maximizes the polyphony, sets the number of usable voices.

BASS & treble boost, mid cut EQ: - Turns a bass and treble booster EQ on or off.

Treble limiter: - Turns a high frequency limiter on/off, used to avoid the distortion of high frequencies and digital aliasing.

How to set the response time?

Step One: Select a DirectX driver of your sound card. See "*Driver type*" to determine whether the selected driver is a DirectX driver or not. Avoid using an *MME* (MultiMedia Extension) driver. By default Dream Station selects the "Primary Sound Driver" if the DirectSound subsystem is available.

Step Two: Turn on the *Test Signal*.

Step Three: Adjust (lower) the *Response time fader* until the sine wave being heard (the test signal) begins to stutter. Now increase the response time until you find the first position where the sine wave is heard continuously. If the test signal doesn't become distorted at all, then your system (CPU and sound card) supports all available response time configurations.

Final Step: Turn off *Test Signal*, close dialog box and exit Dream Station to save the preferences.

Note: You can increase the number of synthesizable voices (polyphony) by increasing the response time. The higher is the response time, the less CPU is reserved for forwarding the sound data to the sound card, and the more voices can be synthesized simultaneously. You have to find the optimum value of the response time for your configuration.

What do we call good response?

It depends on how you want to use Dream Station. If you are about to use it with its own internal sequencer, then between 40-50ms response time is more than enough. If you are going to use Dream Station as a standalone MIDI module, then a maximum of 25ms is suggested. MIDI synchronization also needs at least 40-50ms response time. WE DO NOT SUGGEST USING DREAM STATION WITH A HIGHER RESPONSE TIME THAN 100ms! Using Dream Station with a high response time spoils the MIDI resolution, accuracy and response!

Internal sequencer settings.

Turn off sequencer: - Turns Dream Station into a virtual MIDI sound module.

Mark minor & major beats: - The sequencer's display will mark the beats in the pattern.

Follow song position: - The sequencer's edit cursor and display will follow the actual song position.

Free audio device when stopped: - If this box is checked, the selected audio device will be freed for other applications while the music is being stopped.

Preview note: - Previews (triggers) the note on the currently selected instrument/sound you are about to enter into the sequencer. If this option is enabled, you will be able to toggle the cursor's write state in the sequencer using the ENTER key. YELLOW cursor writes into the pattern, RED doesn't.

Set the current instrument number automatically: - Sets the currently used (selected) instrument's number when entering notes into the sequencer.

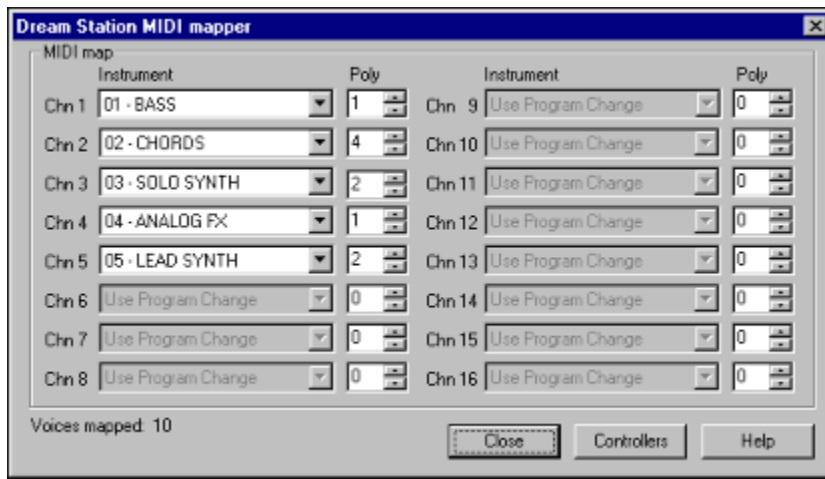
Use "tracker" style keyboard layout: - Lets the user to enter notes using keys 'ZSXDCV...' and 'Q2W3ER...' into the sequencer.

Miscellaneous.

Store instruments when selecting another: - Stores the sound automatically before selecting a new preset (no need to press "store").

Discard "save changes" warning: - Dream Station will skip the changes you've made when quitting.

MIDI mapper dialog.



Overview

Before you can drive Dream Station from an external MIDI source (masterkeyboard or sequencer), you have to assign the instruments/presets in Dream Station to specified MIDI channels. The software responds to MIDI channel one (only) by default. You can customize the "midi map" for each song in Dream Station to build up a MIDI environment to use with your external sequencer.

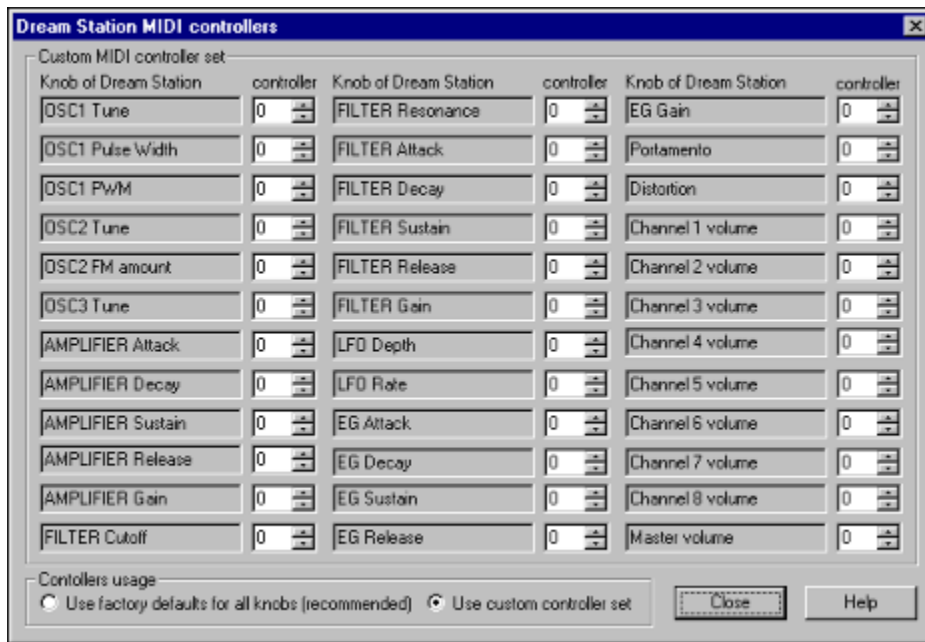
Instrument

Selects a preset/instrument to use on the specified MIDI channel. In the case it is being set to "Use Program Change", Dream Station will process the incoming *program change* messages, so that the instrument must be selected in the external sequencer. We suggest you to assign the instruments in Dream Station rather than in the sequencer, because the changes will be validated immediately. If you do it in the external sequencer, the changes will be validated only when restarting the actual song.

Poly

Polyphony sets the maximum amount of usable voices for the channel. If more voices are about to be triggered on the specified channel, Dream Station cuts the previously triggered notes. Newer notes always have got higher priority, so be sure to set the *poly* settings properly! -- Note: Do not exceed the maximum polyphony setting in the preferences dialog.

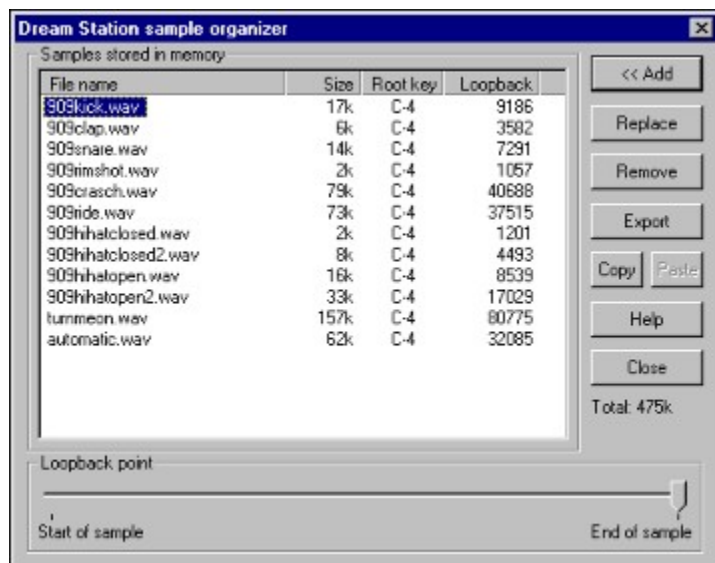
MIDI controllers setup dialog.



Overview

This dialog lets you customize the MIDI controllers used by Dream Station. By default, all knobs, sliders, toggles and controls are assigned to an individual MIDI controller (from cc.#12 to #63, #70 to #90 and #102 to #113). If you want to use a custom controller set, click on the "Use custom controller set" and specify an individual controller for every required knob/slider. In that case, all other controls (not listed above) will be ignored.

Sample organizer dialog.



Overview

You can use additional 16 bit mono samples (drums/percussion, speech, lyrics etc...) to complete your songs. Every sample must be loaded into the memory first (there is no size limitation). The samples are listed with their name, size, root key and looping point as seen above. Dream Station supports single loopback point in every sample. Looping samples should be done in an external sample processor software. After adding, by loading samples into the memory, you will be able to select them in the synth panel as the waveform of specified oscillators. You can even create sample splits to build up a whole drum kit (using more samples) within just one preset.

Add

Loads a new sample (*.wav) into the memory. Samples must be 16 bit mono samples!

Replace

Replaces the selected sample with a new one (no need to remove and add separately).

Remove

Removes the selected sample from the memory and musicfile.

Export

Exports the selected sample to a wave file for further processing. Usable in case the wave file has already been deleted.

Copy

Copies the selected sample (wave file) to Windows' clipboard. This data can be reached from any other sample editor/processor software running on your system.

Paste

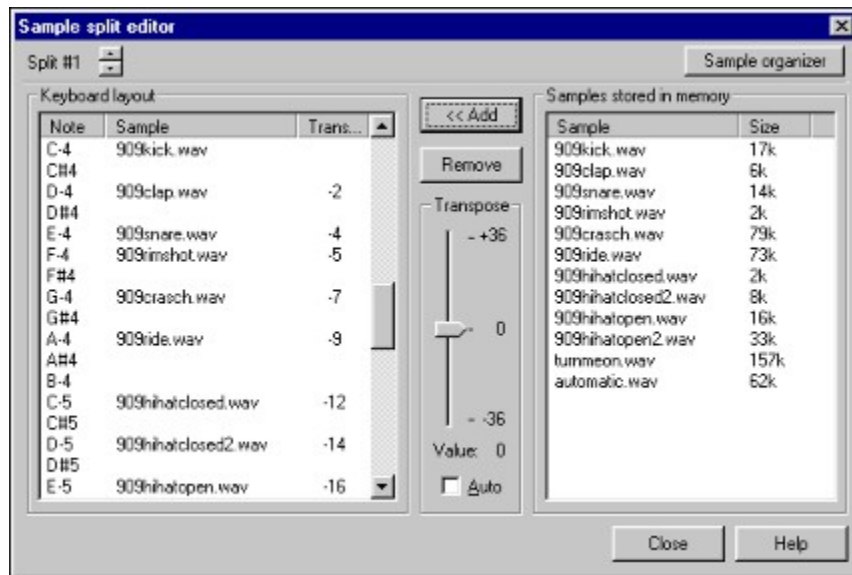
Copies the sample (wave file) from Windows' clipboard into the Dream Station song. Since there is no name associated with the wave file in the clipboard, you have to assign a name to the newly imported sample, or choose an existing sample from the list to replace it with

the contents of the clipboard.

Loopback point

Sets the loopback point of the selected sample. If the sample has no loopback point, this slider is set to the *End of sample* position, thus Dream Station repeats the very last sample value which must be zero. This slider is not meant for precise looping of the samples in Dream Station.

Sample split editor dialog.



Overview

Sample splits are used to layer up the whole keyboard with different samples. This means that you can use more samples in one instrument, which is very useful to create drum kits for instance. There are 32 empty split presets to fill with samples.

How to build a sample split?

Step one: Select a sample from the rightmost *Samples stored in memory* list.

Step two: Select one or more notes from the leftmost *Keyboard layout* list.

Step three: Adjust the *transpose slider* if you want to transpose the sample, then press the *Add* button.

Now you've assigned the selected sample with one or more notes. You can repeat *step three* for as many times and as many samples you want to put into the current split.

Add

Adds the selected sample to the specified note(s) in the keyboard layout.

Remove

Removes sample from the selected notes in the keyboard layout.

Transpose

Sets the transpose value of the sample being added to the keyboard layout.

Auto

If auto transpose is turned on, then the samples will automatically be transposed to their root key when adding them to the keyboard layout.

Automation controls box.



Overview

The automation controls box is a powerful tool to manage the modulations of any knob on the synth panel. It makes it possible to record the tweakings of ten specified knobs in real-time during a song. You have to assign the knobs on the synth panel to the knobs on the automation controls box.

Recording tweakings

Recording tweaking is very easy! Just grab a knob any time and set it to a value, no matter if the sequencer is currently playing the song or not. If the knob has been assigned to a sound, you will hear the changes immediately. While *automation data* is not stored in the patterns (but in a separate buffer) you can use different *automation* for the same pattern in different positions. It means that you can write a bassline pattern, repeat it in the *musicparts editor* and sweep the filter's cutoff differently for each repeated copy by hand. You can overwrite a recorded tweaking simply by clearing or recording. You have the possibility to copy the *automation data* in the *musicparts editor*. Press the CTRL+1 to pick up the data, then press CTRL+2 to place the *automation data* from/to a position.

Use

Turns the modulation on/off. If it is turned off, the recorded tweakings are skipped for the current knob. Pressing the *use* button at the first time pops up the *set menu* automatically where you can associate a knob on the synth panel with this one.

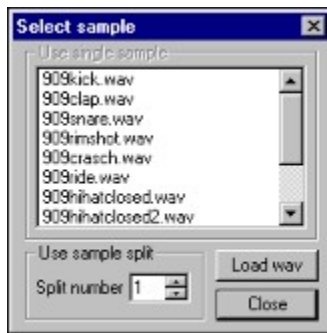
Set

Sets/alters the destination sound and knob to use with the specified knob in the box.

Clr

Clears all movement in the current pattern position for the specified knob in the box.

Sample selector.



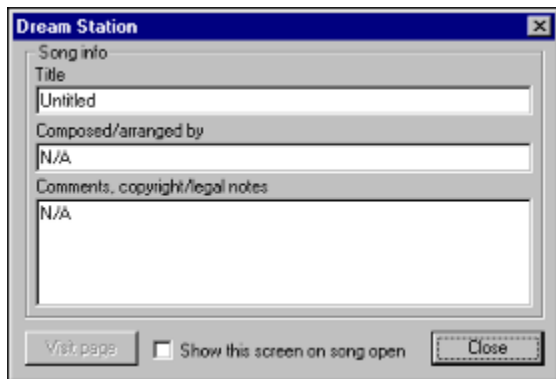
Overview

This dialog box is used to select sample(s) as the waveform of a specified oscillator. You may either select a single sample or sample split by clicking on the appropriate place (sample list or split spin).

Load wav

Loads a new wave file into the memory (same as the *Add* button in the [sample organizer](#)).

Song information dialog.



Overview

You may enter song specific information in this dialog dialog box, such as title, composer, comments, copyright notes, and web URL referring to the current song in Dream Station.

Visit page

Pressing this button executes a web browser and visits the page that can be found in the *Comments* section. The URL must begin with the *http://* prefix.

Show this screen on song open

If this option is enabled, this dialog will be shown every time the user loads this song into Dream Station.

