

# CUBASE

# VST

VST Effect Plug-ins



**Steinberg**

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# Introduction

Cubase VST comes with a number of VST Plug-in effects included. This chapter describes the included effects parameters. For general details about how to assign and set up effects, see the chapter “Installing and using VST plug-ins” in the “Getting into the Details” document.

## About VST 2.0

Version 2.0 of the VST plug-in standard allows plug-ins to receive MIDI from the host application (in this case, Cubase VST). Possible uses for this feature include tempo-based delays, MIDI control of pitch-shifters and harmonizers, etc.

- **MIDI Timing information is automatically provided to VST 2.0 plug-ins that “requests it”.**

## About the “Earlier VST Plug-ins” Folder.

Cubase VST 5.0 comes with a completely new set of effect plug-ins. To ensure backwards compatibility with Songs created using previous versions of Cubase, the previous standard set of VST plug-ins is included as well. These are located in the sub-folder “Earlier VST PlugIns” on your effect menus. The parameters for these effects are described in a separate document.

## Tempo Sync basics

Several of the new VST Plug-in effects can be synchronized to the Song tempo in Cubase VST. In the control panels for the effect, you normally set up tempo sync by specifying a **base note value** and a **multiplier**. The resulting timing interval is the base note value multiplied with the multiplier value. For example, if you set the base note value to 1/16 (a sixteenth note) and the multiplier to 3, the resulting timing is 3/16. In the case of a delay effect, this means the interval between each delay repeat will be three sixteenth notes.

## A note about Stereo Effects

Several of the VST Plug-in effects affect the stereo image, in the form of panning, stereo enhancement or stereo ambience. However, for this to be heard, the output of the effect must be routed to a stereo channel or bus (since otherwise, the output will be mixed to mono). In short: Stereo image effects will not be heard if the effect is used as an Insert Effect for a mono audio channel.

- **If you want to apply e.g. auto-panning to a mono audio channel, there are two ways to do this:**
  - 1) Use a Send Effect (you would probably want to activate the Pre-fader Send switch and turn down the volume fader for the audio channel).

Or

  - 2) Route the mono audio channel to a Group channel and apply the effect as an Insert Effect for the Group channel.

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## About the CubaseDynamics plug-in

CubaseDynamics is a plug-in version of the VST Dynamics Panel that is available in the Channel Settings window. The reason for having a separate plug-in version is to make dynamic processing available to Group, ReWire and VST Instrument channels (which cannot use the VST Dynamics panel in the Channel Settings). In addition, it is also possible to use the Dynamic plug-in as a Master effect. CubaseDynamics features three separate processors: AutoGate, Compress and Limit, covering the most common dynamic processing functions.

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- ❑ See the chapter “Mixing Audio and using Effects” in the Getting into the Details documentation for a description of the available parameters.
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- Two additional dynamic processors are available in the VST Dynamics panel; **AutoLevel and SoftClip**.  
For technical reasons, these are not available in the Dynamics plug-in.
  - One additional feature - “Routing” - is available in the Dynamics plug-in, which is not available in VST Dynamics panel. This is described below.

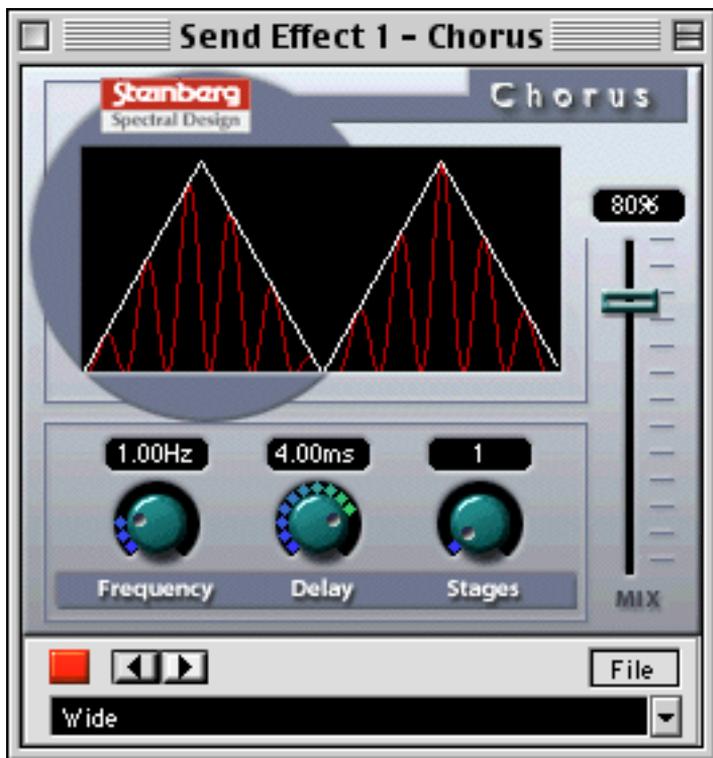
### Routing section



In the Routing section you can set the signal flow order for the three processors. Changing the order of the processors can produce different results, and the available options allow you to quickly compare what works best for a given situation. Beside each processor label, there is a number. These numbers are used to represent the signal flow options shown in the Routing section. There are three routing options:

- 1-2-3 (Compress-Gate-Limit)
- 2-1-3 (Gate-Compress-Limit)
- 1-3-2 (Compress-Limit-Gate)

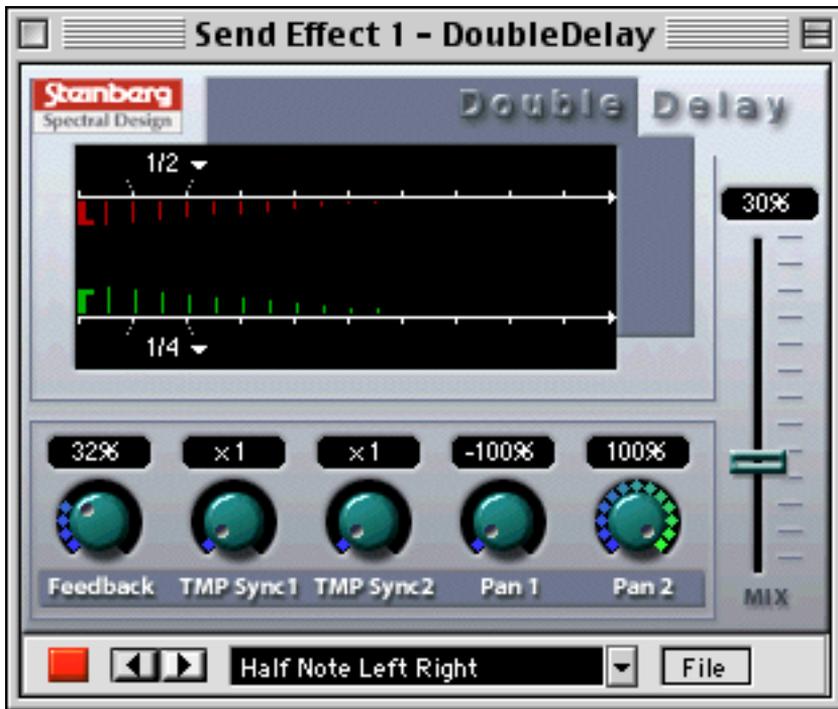
## CubaseChorus



The Cubase Chorus plug-in adds a short delay to the signal, and pitch modulates the delayed signal to produce a “doubling” effect. The parameters are as follows:

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If Chorus is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Frequency	0-5Hz	This sets the modulation rate.
Delay	0-5ms	This controls the depth of the Chorus effect.
Stages	1-3	This adds one or two more delay taps, producing a thicker, multi-layered chorus effect.

## DoubleDelay



This effect provides two separate tempo-based delays. Cubase automatically provides the plug-in with the current Song Tempo. The parameters are as follows:

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If DoubleDelay is used as a send effect, this should be set to maximum (100%) as you can instead control the dry/effect balance with the send.
Tempo Sync pop-up 1	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	This pop-up menu (in the upper left corner of the graphic display) is where you specify the base note value for the first delay unit. <b>If "No Sync" is selected, no delay effect will be produced.</b>
Tempo Sync pop-up 2	As above.	This pop-up menu (in the lower left corner of the graphic display) is where you specify the base note value for the second delay unit.
Feedback	0-100%	This sets the number of repeats for both delays.
TMP Sync1	x1 to x10.	The note value multiplier for the first delay unit. See <a href="#">page 3</a>
TMP Sync2	x1 to x10.	As above, but for the second delay unit.
Pan1	-100 to 100%	This sets the stereo position for the first delay.
Pan2	-100 to 100%	This sets the stereo position for the second delay.

# ModDelay



This is a delay effect that can either be tempo-based or use freely specified delay time settings. The delay repeats can also be modulated. The parameters are as follows:

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If ModDelay is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Feedback	0-100%	This sets the number of repeats for the delay.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	Clicking the value field above the Tmp Sync knob opens the Tempo Sync pop-up. This is where you specify the base note value for the delay. <b>If you select "No Sync", the delay time can be set freely with the Time knob, without sync to tempo.</b>
Tmp Sync knob	x1 to x10.	This is the note value multiplier for the delay when tempo sync is used. See <a href="#">page 3</a>
Time	0-5000ms	This sets the delay time when "No Sync" is selected on the Tempo Sync pop-up, i.e. tempo sync is off.
DelayMod	0-100%	This controls the pitch modulation rate for the delay effect.

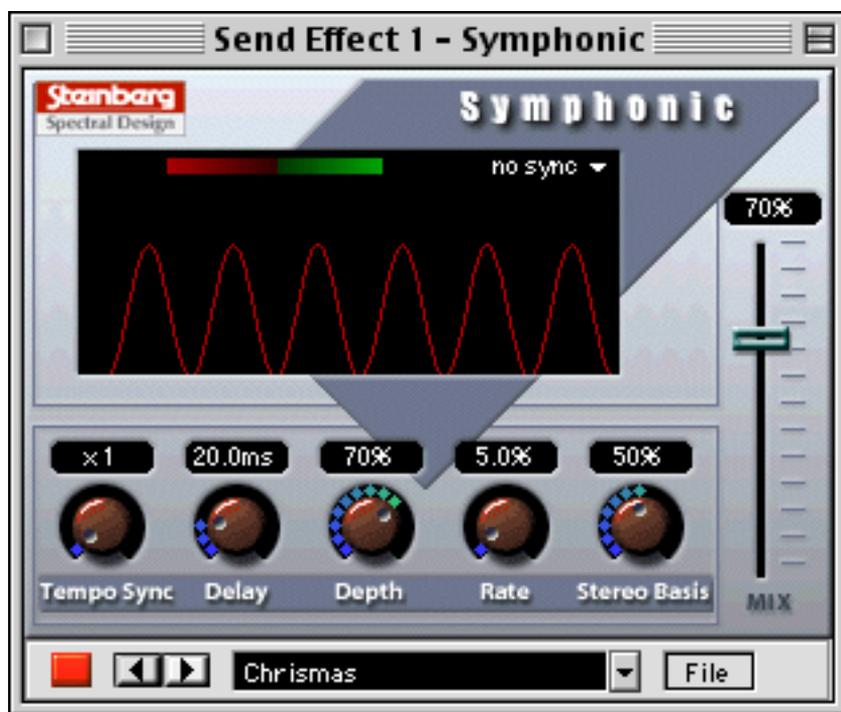
# WildFlanger



WildFlanger is a classic flanger effect with stereo enhancement. Parameters are as follows:

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If WildFlanger is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	This pop-up menu (in the upper right corner of the graphic display) is where you specify the base note value for tempo syncing the flanger sweep. <b>If you select "No Sync", the sweep rate can be set freely with the Time knob, without sync to tempo.</b>
Tempo Sync knob	x1 to x10.	This is the note value multiplier for the flanger sweep when tempo sync is used. See <a href="#">page 3</a>
Shape Sync knob	1-16	This changes the shape of the modulating waveform, altering the character of the flanger sweep.
Feedback	0-100%	This determines the character of the flange effect. Higher settings produce a more "metallic" sounding sweep.
Rate	0-5Hz	This sets the rate of the modulation sweep when "No Sync" is selected, i.e. when tempo sync is off.
Depth	0-100%	This sets the depth of the modulation sweep.
Delay	0-100ms	This parameter affects the frequency range of the modulation sweep, by adjusting the initial delay time.
Stereo Basis	0-100%	This sets the stereo width of the effect. 0% is mono, 50% original stereo, and 100% maximum stereo enhancement.

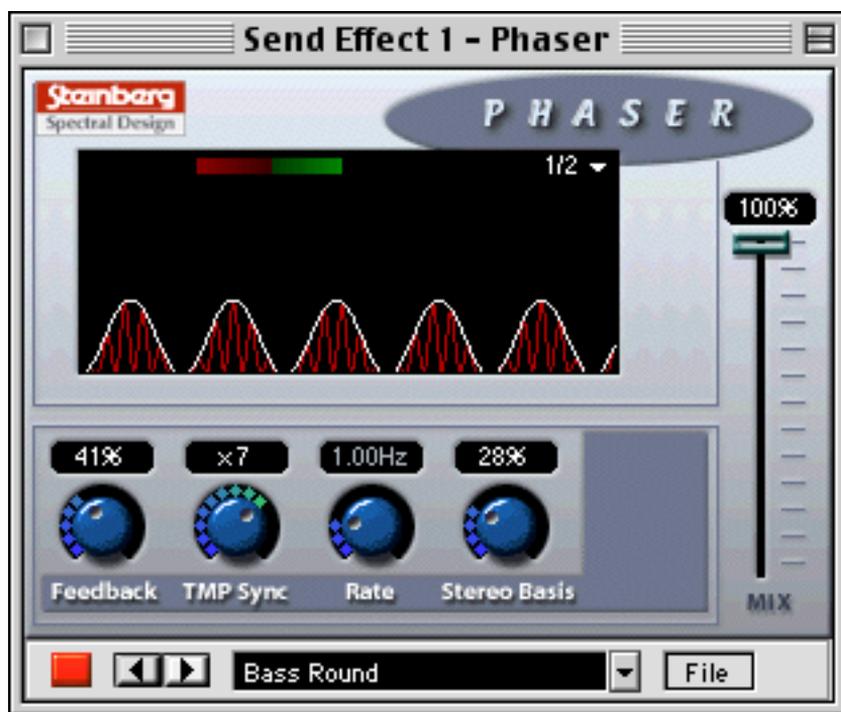
## Symphonic



The Symphonic plug-in combines a stereo enhancer, an auto-panner synced to tempo and a chorus-type effect. For best results, apply the Symphonic effect to stereo signals.

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If Symphonic is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	This pop-up menu (in the upper right corner of the graphic display) is where you specify the base note value for tempo syncing the panning effect. <b>Selecting "No Sync" turns off the auto-panning, allowing you to use Symphonic as a chorus and/or stereo enhancer only.</b>
Tempo Sync knob	x1 to x10.	This is the note value multiplier, determining the timing of the auto-panning. See <a href="#">page 3</a>
Delay	0-100 ms	This determines the delay time and thus the character of the chorus effect, if activated.
Depth	0-100%	This controls the depth of the chorus effect. <b>If you only want to use Symphonic as an auto-panner or a stereo enhancer, set this to 0%.</b>
Rate	0-100%	This sets the modulation rate for the chorus effect, if activated.
Stereo Basis	0-100%	When the Auto-panner is activated, this sets the stereo width of the panning. When the Auto-panner is deactivated ("No Sync" is selected), this determines the depth of the Stereo Enhancer effect. 0% is mono, 50% original stereo, and 100% maximum stereo enhancement.

## Phaser



The Phaser plug-in produces the classic “swooshing” sound that characterizes phasing. It works by shifting the phase of the signal and adding it back to the original signal, causing partial cancellation of the frequency spectrum.

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If the Phaser is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	This pop-up menu (in the upper right corner of the graphic display) is where you specify the base note value for tempo syncing the Phaser sweep. <b>If you select “No Sync”, the sweep rate can be set freely with the Time knob, without sync to tempo.</b>
Feedback	0-100%	This sets the amount of Feedback. A higher value produces a more pronounced effect.
TMP Sync knob	x1 to x10.	This is the note value multiplier for the Phaser sweep when tempo sync is used. See <a href="#">page 3</a>
Rate	0-6Hz	This sets the rate of the Phaser sweep, when “No Sync” is selected, i.e. when tempo sync is off.
Stereo Basis	0-100%	This sets the stereo width of the effect. 0% is mono, 50% original stereo, and 100% maximum stereo enhancement.

## Distortion



The Distortion effect plug-in is capable of producing anything from a soft “crunch” to all-out distortion. There is a selection of factory presets available. Note that these presets are not stored parameter settings, but different basic distortion algorithms. The basic characters of the distortion preset “models” are indicated by their names. The parameters are as follows:

Parameter	Values	Description
Input	-24dB to 0dB	Sets the Input level.
Output	-24dB to 0dB	Sets the Output level. As distortion generates harmonics, it increases the level of the processed signal. You can use the Output fader to compensate for the level increase.
Shapes	Linear, Non-linear 1, Non-linear 2	The Shape parameter determines how much the input signal is affected by the distortion effect. Non-linear 2 will produce the strongest distortion.
Contour	0-100%	This is a selective low pass filter, altering the tonal quality of the distortion.
Drive	0-100%	Governs the amount of distortion.
Factory Presets	Soft, Crunchy, Dirty, Wracky, Evil	Select one of five presets, which can be used as they are, or as a basis for further “tweaking”.

## Overdrive



Overdrive is a distortion-type effect, emulating the sound of a guitar amplifier. There is a selection of factory styles available. Note that these are not stored parameter settings, but different basic overdrive algorithms, the characters of which are indicated by the style names. The parameters are as follows:

Parameter	Values	Description
Input	--15 to +15dB	Sets the Input level.
Output	-15 to +15dB	Sets the Output level. As overdrive generates harmonics, it increases the level of the processed signal. You can use the Output fader to compensate for the level increase.
Speaker simulation	On/Off	Simulates the sound of a speaker cabinet.
Factory Styles	Warm, Chordy, Magic OD, Fat Drive, Woody, Bluesy	Select one of six presets, which can be used as they are, or as a basis for further "tweaking".
Bass	-15 to +15dB	Tone control for the low frequencies, allowing a 15 dB boost or cut.
Mid	-15 to +15dB	Tone control for the mid frequencies, allowing a 15 dB boost or cut.
Hi	-15 to +15dB	Tone control for the high frequencies, allowing a 15 dB boost or cut.
Drive	0-100%	Governs the amount of overdrive.

## Chopper2



Chopper2 is a combined tremolo and autopan effect. It can use different waveforms to modulate the level (tremolo) or left-right stereo position (pan), either using Tempo Sync or manual modulation speed settings.

Parameters are as follows:

Parameter	Values	Description
Input	0-100%	Sets the Input level.
Output	0-100%	Sets the Output level.
Mix	0-100%	Sets the level balance between the dry signal and the effect. If Chopper is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	When tempo sync is activated (the "Sync" button is lit) clicking the field above the Speed knob opens a pop-up menu, on which you select a note value for tempo-syncing the effect. Note that there is no note value modifier for this effect (see <a href="#">page 3</a> ).
Speed	0-50Hz	When tempo sync is activated (the "Sync" button is lit), this knob selects note values (the same as selecting from the pop-up menu). When tempo sync is deactivated (the "Sync" button is dark), this sets the tremolo/auto-pan speed freely.
Sync button	On/Off	Turns Tempo Sync on or off.
Stereo/Mono button	Stereo/Mono	Determines whether the Chopper will work as an auto-panner (button set to "Stereo") or a tremolo effect (button set to "Mono").
Waveform buttons	Sine, Square, Saw, reverse Saw, Triangle	Sets the modulation waveform.
Depth	0-100%	Sets the depth of the Chopper effect.

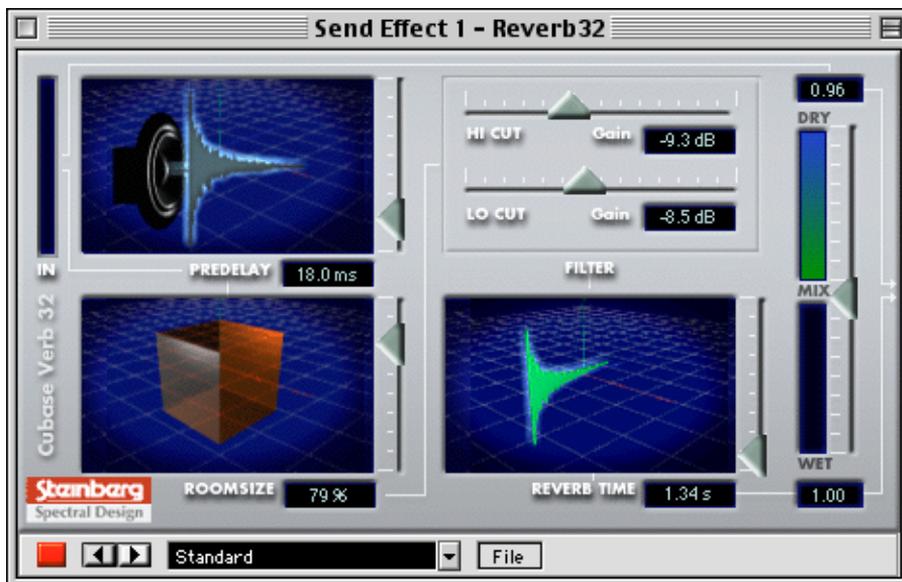
## Reverb



Reverb is used to add ambience and “space” to recordings. The reverb effect features the following parameters:

Parameter	Values	Description
Mix	0-100%	Sets the level balance between the dry signal and the effect. If Reverb is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Room Size	0-100%	Governs the “size” of the simulated room environment.
Predelay	0-100%	This parameter sets a delay between the direct sound and the reverb effect output. A short predelay before the reverb reduces reverb “clutter” which blurs the sound, and makes the reverb effect more natural-sounding.
Reverb Time	0-100%	This parameter sets the length of the reverb effect.
Damp	0-100%	This parameter “dampens” the higher frequencies, producing a rounder and smoother sounding reverb.

## Reverb 32 (VST/32 Only)



Reverb 32 is a reverb plug-in which provides smooth, dense reverb effects. Reverb 32 has the following parameters:

Parameter	Values	Description
Mix	Dry/Wet	Sets the level balance between the dry signal and the effect (wet). If Reverb 32 is used as a send effect, this should be set to maximum wet, as you can instead control the dry/wet balance with the send.
Room Size	20-100	This setting determines the "size" of the simulated room environment.
Predelay	0-100ms	This parameter sets a delay between the direct sound and the reverb effect output. A short predelay before the reverb reduces reverb "clutter" which blurs the sound, and makes the reverb effect more natural-sounding.
Reverb Time	0,2s - Forever	This parameter sets the length of the reverb time.
Filter Hi Cut	-15 to 0dB	This filters out high frequencies for the reverb, which can make the reverb sound softer.
Filter Lo Cut	-15 to 0dB	This filters out the lower frequencies for the reverb. It can be used to reduce low frequency "rumble".

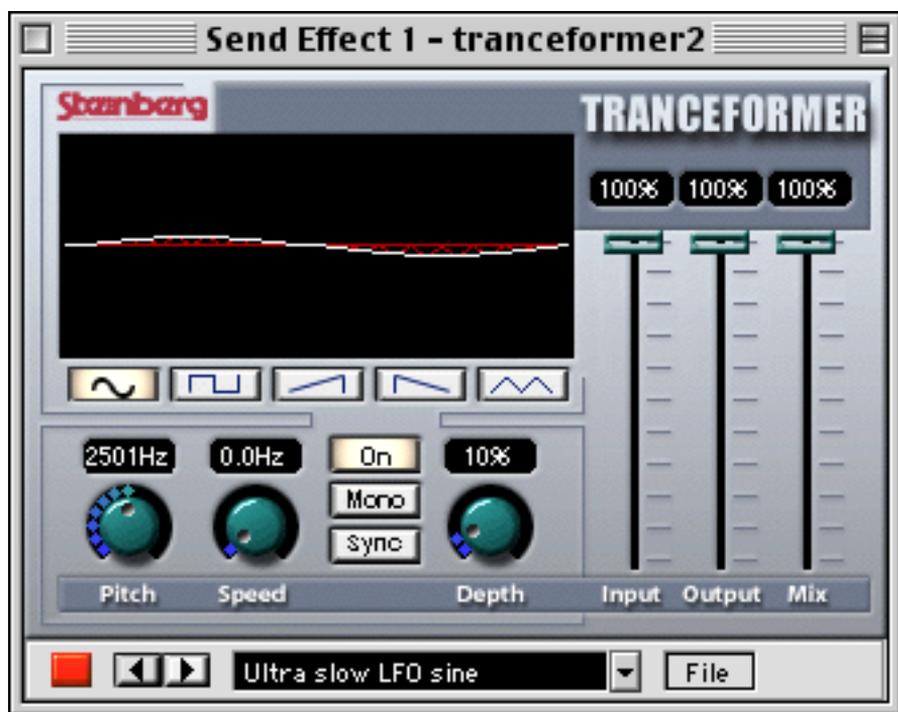
## Metalizer2



The Metalizer feeds the audio signal through a variable frequency filter, with Tempo sync or time modulation and feedback control.

Parameter	Values	Description
Output	0-100%	Sets the Output level.
Mix	0-100%	Sets the level balance between the dry signal and the effect. If Metalizer is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	When tempo sync is activated (the "Sync" button is lit) clicking the field above the Speed knob opens a pop-up menu, on which you select a note value for tempo-syncing the effect. There is no note value modifier for this effect (see <a href="#">page 3</a> ).
Speed	0-10Hz	When tempo sync is activated (the "Sync" button is lit), this knob selects note values (the same as selecting from the pop-up menu). When tempo sync is deactivated (the "Sync" button is dark), this sets the modulation speed freely.
On button	On/Off	Turns on and off the filter modulation. When turned off, the Metalizer will work as a static filter.
Sync button	On/Off	Turns tempo sync of the modulation on or off.
Stereo/Mono button	Stereo/Mono	Determines whether the output of the Metalizer will be in stereo or mono (see also the note on stereo effects on <a href="#">page 3</a> ).
Sharpness	0-100%	Governs the character of the filter effect. The higher the value, the narrower the affected frequency area, producing sharper sound and a more pronounced effect.
Tone	0-100%	Governs the feedback frequency. The effect of this will be more noticeable with high Feedback settings.
Feedback	0-100%	Sets the amount of feedback. Higher values produces a more "metallic" sound.

## Tranceformer2



Tranceformer2 is a ring modulator effect, in which the incoming audio is ring modulated by an internal, variable frequency oscillator, producing new harmonics. A second oscillator can be used to modulate the frequency of the first oscillator, synchronized to the Song tempo if you wish.

Parameter	Values	Description
Input	0-100%	Sets the Input level.
Output	0-100%	Sets the Output level.
Mix	0-100%	Sets the level balance between the dry signal and the effect.
Pitch	1 - 5000Hz	Governs the frequency (pitch) of the modulating oscillator.
Tempo Sync pop-up	No sync, 1/1 to 1/32, 1/1 to 1/32 Triplet, 1/1 to 1/32 Dotted.	When tempo sync is activated (the "Sync" button is lit) clicking the field above the Speed knob opens a pop-up menu, on which you select a note value for tempo-syncing the effect. There is no note value modifier for this effect (see <a href="#">page 3</a> ).
Speed	0-10Hz	When tempo sync is activated (the "Sync" button is lit), this knob selects note values (the same as selecting from the pop-up menu). When tempo sync is deactivated (the "Sync" button is dark), this sets the modulation speed freely.
On button	On/Off	Turns modulation of the Pitch parameter on or off.
Stereo/Mono button	Stereo/Mono	Governs whether the effect output will be stereo or mono.
Sync button	On/Off	Turns tempo sync of the modulation on or off.
Depth	0-100%	Governs the depth of the pitch modulation.
Waveform buttons	Sine, Square, Saw, reverse Saw, Triangle	Sets the pitch modulation waveform.

## Karlette



The Karlette is a four-channel delay, that emulates a “tape-loop” echo. The four “tape-heads” can be set to a certain note value, or a certain time, depending on whether Tempo Sync is activated or not. For each of the four “tape-heads”, you can set the following parameters:

Parameter	Values	Description
Delay	1/32, 1/16, 1/16*, 1/8, 1/4T, 1/8*, 1/4, 1/2T, 1/4*, 1/2, 3/4, 1/1 Sync Off: 0 - 2 sec.	With the sync button activated, the delay can be set to a note value synced to the Cubase tempo. If the sync button is deactivated, the delay can be freely set to a time value.
Volume	Off to 0dB	The amplitude of the delay. With the knob turned all the way to the left, the delay is muted.
Damp	0.000 to 1.000	The higher the value, the more the delay is dampened (the high frequencies are attenuated) to produce a more subtle effect.
Pan	L64/< C >/R64	Sets the stereo position for the delay.
Feedback	0.000 to 1.000	Sets the number of delay repeats.

In addition, the following global parameters are available:

Dry/Wet	0-100%	Sets the level balance between the dry signal and the effect. If Karlette is used as a send effect, this should be set to maximum as you can instead control the dry/effect balance with the send.
Sync	On/Off	Turns Tempo Sync on or off.

# Grungelizer



The Grungelizer adds noise and static to your recordings. Kind of like listening to a radio with bad reception, or a worn and scratched vinyl record.

Parameter	Values	Description
Crackle	N-A	This adds crackle to create that old vinyl record sound. The farther to the right you turn the dial, the more crackle is added.
RPM switch	33-45-78	When emulating the sound of a vinyl record, this switch lets you set the RPM (revolutions per minute) speed of the record.
Noise	N-A	This dial regulates the amount of static noise added.
Distort	N-A	Use this dial to add distortion.
EQ	N-A	Turn this dial to the right to cut off the low frequencies, and create a more hollow, lo-fi sound.
AC	N-A	This emulates a constant, low hum of AC current.
Frequency switch	50-60 Hz	This sets the frequency of the AC current, and thus the pitch of the AC hum.
Timeline	Today - 1900	This dial regulates the amount of overall effect. The farther to the right (1900) you turn this dial, the more noticeable the effect.