KOMPLEXER VST

Extended Subtractive Synthesizer

TerraTec Producer KOMPLEXER VST

English manual

Version 1.00, from: July 2006

Contents:

Welcome!

We're pleased that you've chosen the TerraTec Producer KOMPLEXER VST for your musical endeavors and would like to congratulate you on your decision. With the KOMPLEXER VST, you've purchased an exceptional synthesizer—and we're convinced this innovative development will prove extremely useful to you in the coming years and, above all, provide you with a great deal of entertainment. We hope that this brochure is helpful to you while using the product. It is designed to illustrate technical aspects of sound programming. This brochure is not only designed to help beginners with this complicated subject—advanced musicians will also find the occasional bit of useful information.

We hope you find this manual both informative and entertaining to read, and hope you find lots of pleasure in the KOMPLEXER VST.

Sincerely,
Your TerraTec Producer Team

Worlds of sound. The KOMPLEXER VST—a high-end synthesizer "made in Germany". With the fantastic possibilities this synthesis engine provides, you are unlikely to need any other synthesizer. In addition to classic virtual analog synthesis, wavetable oscillators and FM synthesis provide you with additional powerful sound sculpting tools. With four envelope curves, three LFOs, two multimode filters and a 16x modulation matrix, the sound possibilities of the KOMPLEXER VST are unlimited.

Perfect integration. The KOMPLEXER VST integrates perfectly into every VST host system. The KOMPLEXER VST processes both important tempo information and external MIDI controllers. The arpeggiator automatically synchronizes with the host, all parameters can be automated and all settings are saved together with your project.

Waldorf microQ import. The KOMPLEXER VST is the only VST plugin in the world to have an import function for Waldorf microQ sounds. Even now, with the first version of the KOMPLEXER VST, you have access to a huge library of sounds.

From opening the package to installation

Before using the KOMPLEXER VST on your computer, take note of any special points pertaining to your computer's configuration. Also refer to the manuals of your computer and other software programs for their settings.

The installation should run without any problems, especially in recent systems. If you are experiencing difficulties all the same, please review carefully the relevant chapter in this manual. If you are still having problems, please call our service hotline. You can find our contact information on the Internet at **www.terratec.net.**

Scope of delivery

Start by making sure that the contents of the package are complete.

The KOMPLEXER VST package should include at least the following items:

- 1 KOMPLEXER VST installation CD
- 1 user manual
- 1 service request form
- 1 registration card

Please fill out and return the registration card enclosed in the package to us at your earliest convenience or register online at **www.terratec.net/register.htm**. This is important for support and hotline services. We can only provide support if you are properly registered.

Windows installation—step by step

Please follow the steps in the exact order they are listed and ensure that Windows is correctly installed on your computer.

Which operating system?

The TerraTec Producer KOMPLEXER VST can be used in Windows only. Macintosh computers are not yet supported.

Installing the KOMPLEXER VST

1. Before you start, ensure that your Windows version is up to date. Right-click the "My Computer" icon and choose "Properties" from the context menu. If you're still using the default XP wallpaper, you can access this menu item by clicking: Start -> Settings -> Control Panel -> System. Please contact Microsoft (**www.microsoft.com**) to obtain an update for your system. The service pack is generally free of charge.

2. Insert the KOMPLEXER VST installation CD provided and wait for the autorun application to launch. If you have disabled autorun, start the installation manually by double-clicking the file "Install_KOMPLEXER VST.exe".

3. Then, proceed through the windows of the installation routine, clicking "Next" to go to the next window. During the installation, you will be prompted to enter your name and the accompanying serial number. Enter this information very carefully and do not pass on your registration data to third parties. Installation is possible from the original KOMPLEXER VST CD only. Install the KOMPLEXER VST into the directory that also contains your other VST plugins. In addition to the conventional KOMPLEXER VST.dll file, a KOMPLEXER VST.exe file is installed, which you can use to start the stand-alone version of the KOMPLEXER VST if you do not have any VST-compatible host software (or do not want to use it).

4. Now, all important files, including the manual, are in the Windows Start menu. The sound banks provided are located in the KOMPLEXER VST folder.

Starting the KOMPLEXER VST

After connecting a suitable keyboard to your computer via MIDI or USB, check to make sure that your audio hardware is working properly.

The KOMPLEXER VST can either be used as a VST instrument (VSTi) within a host (such as Cubase, Live or Sonar) or called up as a standalone program.

Where applicable, refer to the documentation for the respective host software for additional information about loading VST instruments.

To call up KOMPLEXER VST as a standalone program, in the Windows Start menu, open → KOMPLEXER Standalone. Then, under DEVICES → MIDI, set the MIDI port to which your keyboard is connected. Under DEVICES → WAVE, select the corresponding driver of your audio system. If you have an audio interface with ASIO driver, set the correct audio channels under ASIO CHANNEL SELECTION.

Playing sounds

Go to the KEYBOARD screen of the KOMPLEXER VST. When you start it for the first time, a preset bank consisting of 128 sounds is loaded. Play these sounds via your keyboard's MIDI channel 5. You can also play the sounds via MIDI channel 1, but some sounds consist of multiple layers (refer to the section on "Sound architecture"). All layers are addressed at the same time via MIDI channel 5. The sounds are displayed in groups of 16, between which you can switch using the buttons to the left. The eight large MACRO controllers are always allocated to different parameters of one sound; you can use these to change sounds quickly while playing. The MACRO controllers can be addressed via both MIDI controllers and the host automation.

You can acquire additional high-quality sounds. The About screen (which you can reach by clicking the KOMPLEXER VST logo) includes links to the online stores of providers of these sounds.

Sound architecture

The KOMPLEXER VST offers a sound structure with four layers. All four layers are always saved for each sound. For each bank, 128 sounds with two wavetables are saved. The four layers can be controlled either together via MIDI channel 5 or separately via MIDI channels 1, 2, 3 or 4. Each layer has its own stereo output. In the OPTIONS menu, you can mix all layers together to one stereo output. You can also use this architecture to generate a multimode or surround sound with up to eight channels.

Effects FX1 and FX2 behave as follows: FX1 is available once for each layer, and FX2 is available once for all layers. For each layer, you can define the effect mix for FX2 using the Mix fader.
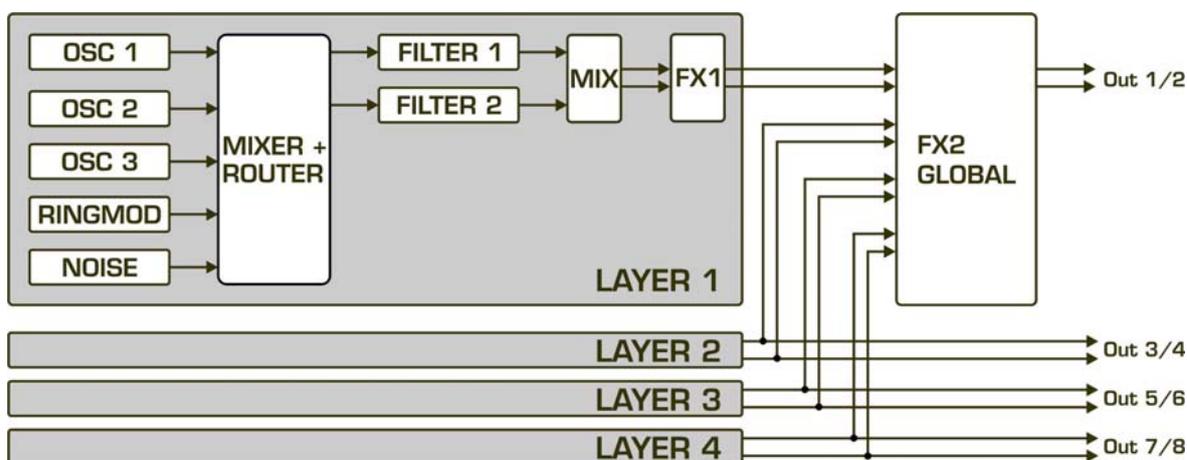
The sound layer structure

General operation

The KOMPLEXER VST has been optimized for a screen resolution of at least 1024x768 pixels. If your resolution is smaller, you either have to scroll or be limited to using the smaller keyboard screen.

The KOMPLEXER VST has various operating elements, the behavior of which differs according to the settings in the specific host used (linear/circular etc.).

Note: The faders can be moved with greater accuracy by simultaneously holding down the Shift key. Clicking the corresponding fader or knob while holding down the Ctrl key resets the parameters to the stored values.

The HEADER

The HEADER is visible on each screen of the KOMPLEXER VST. It provides the global overview and includes the following elements:

1. Display and select the current screen: MAIN, ENV/LFO, MATRIX, ARP/FX, KEYBOARD.

2. Layer Select indicates which of the four layers you are currently editing.

3. Layer On/Off indicates which of the four layers is/are currently active.

4. The information display shows parameter information and a brief description of the parameter function. In addition, MIDI controller allocations and the current numerical value of the parameter are displayed. If you hover over a parameter using the mouse, the corresponding information appears in the information display. Due to the smaller size of the KEYBOARD screen, the information display is omitted.

OPTIONS menu

You can reach the Options menu by right-clicking the KOMPLEXER VST logo.

Fixed Window Size – The KOMPLEXER VST keyboard window is smaller than other windows. Some audio programs do not support different window sizes within one plugin. You can select this option to define a fixed window size so that KOMPLEXER VST always appears in full view.

Bass Boost - An adaptive emulation of an analog circuit that emulates the bass behavior of analog synthesizers.

Stereo - Mixes all four stereo outputs of the individual layers to the first stereo output.

Number of Voices - You can set the maximum number of voices of the KOMPLEXER VST here. Depending on your computer's capabilities, you can generate up to 256 voices. If there are problems with the audio signal even at a low number of voices, increase your sound card's latency (buffer size). Also note that sounds in UNISONO mode trigger multiple voices simultaneously as soon as a single key is pressed.

About screen - Clicking the KOMPLEXER VST logo takes you to the About window, which also includes links to optional sound banks. First, however, close the OPTIONS menu using the CLOSE button.

MIDI controller

To allocate a parameter to a certain MIDI Continuous Controller (MIDI CC), click the fader while holding down ALT. The MIDI controller window then opens. Click the number field to enter a number directly using the computer keyboard or move an operating element on your hardware controller. If the controller outputs a MIDI CC, the number automatically appears in the allocation window (learn function). Click OK to accept the change. If the same MIDI CC has previously been allocated to another parameter, this allocation is removed or assigned the value OFF. MIDI CC number 0 cannot be used. If you enter 0 as the MIDI CC number, the controller allocation for this parameter is disabled.

Some parameters are assigned fixed MIDI controller numbers. This is for better support of the KOMPLEXER DSP module, which will be available soon. Therefore, these MIDI CC numbers are not available for other parameters. The following parameters have fixed allocations:

Parameter	MIDI CC No.
Volume	7
MACRO controller [Expression]	11
MACRO controller [Character]	6
MACRO controller [Warp]	8
MACRO controller [Effect]	9
MACRO controller [Attack]	3
MACRO controller [Decay]	62
MACRO controller [Sustain]	63
MACRO controller [Release]	119
Effect 1 MIX	91
Effect 2 MIX	19

KEYBOARD screen

The KEYBOARD screen is smaller than the other windows. If your host program has problems displaying the different window sizes, enable "FIXED WINDOW SIZE" in the OPTIONS menu.

Directly below the HEADER are the eight MACRO controllers, each of which controls up to four parameters of the KOMPLEXER VST simultaneously. This allows you to trigger enormous changes to a sound with just one turn of a knob. The MACRO controllers are particularly helpful to synthesizer novices or preset users; with one hand motion, even inexperienced users can easily and immediately adapt the sound to the requirements of the musical context. Give it a try—just select a sound and turn the MACRO controllers. This is the best way to understand how they work. The specific programming of the MACRO controllers takes place on the MATRIX screen.

The SOUND BROWSER is located in the middle of the KEYBOARD screen. Use it to select the current sound. You always see 16 sounds at once. Toggle between the blocks of 16 using the buttons to their left. You can also navigate through the individual sounds using the + / - buttons. All four layers are always saved along with each sound.

Next to the name of each sound are four fields that represent the layers. Click a field to highlight it, then press the COPY button to copy it to the clipboard. Then, select the layer field of the same sound program or a new one and click the PASTE button to write the clipboard contents into the new memory position. This also works for complete sounds. Click a sound you want to copy, then "Copy". After selecting the target sound, you can overwrite it

using PASTE. To rename a sound, simply double-click the name in the list of 16 or rename it in the host.

The RECALL button restores the original sound as it is stored in the bank. Thus when changing a sound, you never lose the original sound unless you save the bank.

The FILE menu contains the following entries:

1. Load Bank - corresponds to the host function for loading an FXB bank.

2. Save Bank - corresponds to the host function for saving an FXB bank.

3. Load Sound - corresponds to the host function for loading an FXP sound.

4. Save Sound - corresponds to the host function for saving an FXP sound.

5. Load WT1 - loads a new wavetable into waveform WT1.

6. Load WT2 - loads a new wavetable into waveform WT2.

7. Import mQ - imports a Waldorf microQ *.mid bank file.

Waldorf microQ import

The Waldorf microQ has three sound banks A, B and C with 100 sounds each. The KOMPLEXER VST, however, has 128 sounds per bank. At the import, all 300 sounds of the microQ are converted and saved as three KOMPLEXER VST banks. After the conversion, you can load a bank. The last 28 sounds are created as init sounds. As the default setting, only layer 1 is enabled. For each sound, the MACRO controllers are associated with the following parameters:

MACRO controller	Parameter
Expression	Cutoff Filter 1
Character	Resonance Filter 1
Warp	LFO 1 Speed
Effect	FX 2 Effect
Attack	Amp. Env. Attack
Decay	Amp. Env. Decay
Sustain	Amp. Env. Sustain
Release	Amp. Env. Release

Because the KOMPLEXER VST represents a more advanced stage of development (optimized oscillators and filters) and many features have been adapted to the current needs of users, not every sound from microQ can be converted on a 1:1 basis. Particularly those sounds that use wavetable oscillators may sometimes sound different due to the different wavetables. However, it is also possible to load in other compatible wavetables. However, the arpeggiator of the microQ also differs slightly from that of the KOMPLEXER VST. Thus imported arpeggiator sounds may also sound different compared to microQ.

MAIN screen

On the MAIN screen, advanced users can intervene more deeply in the sound structure. The three oscillators, the mixer and the two filters are located in this screen. For faster editing, the three LFOs and two envelopes are also placed here. For ease of operation on the MAIN screen, you do not have to constantly switch screens in order to configure the basic settings for a new sound. You can also edit the LFOs and ENVs in greater detail on the ENV/LFO screen.

OSCILLATOR 1+2
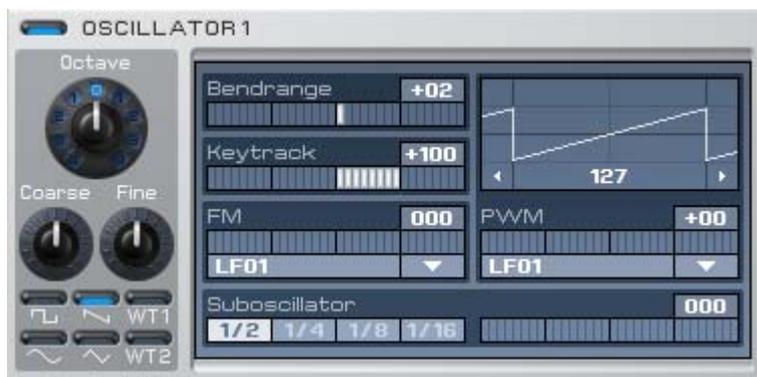
Oscillators 1+2 are identical except for a few details. You can determine the basic pitch using Octave, Coarse and Fine. The six buttons for the waveform are located below. For the waveforms Pulse, WT1 and WT2, you can change the pulse width (Pulse) or wavetable pointer position (WT) by clicking and dragging the waveform display. From the drop-down menu under PWM, select the desired source for pulse width modulation or wavetable. You can also switch off the oscillators using the buttons next to the logo, for example to conserve CPU resources.

Wavetables - WT1 and WT2 are the two wavetables that can be selected for oscillators 1+2. A wavetable consists of 33 waveforms that are smoothly superimposed in real time,

while older Waldorf synthesizers and the PPG changed waveforms in hard steps. This you have the ability to smoothly superimpose two waveforms that are next to each other, which provides an even greater variety of sounds. Click the waveform display to manually cycle through the wavetable or modulate it using PWM. Two wavetables with 33 wave-forms each are available for each bank. You can load additional wavetables using the FILE menu on the KEYBOARD screen.

WT1	Name
1 [0]	PPG Bass 1
2 [4]	PPG Bass 2
3 [8]	PPG Bass 3
4 [12]	PPG Bass 4
5 [16]	PPG Bass 5
6 [20]	Bass 1
7 [24]	Bass 2
8 [28]	Piano
9 [32]	E-Piano 1
10 [36]	E-Piano 2
11 [40]	E-Piano 3
12 [44]	E-Piano 4
13 [48]	Bell 1
14 [52]	Bell 2
15 [56]	Bell 3
16 [60]	Bell 4
17 [64]	Bell 5
18 [68]	Bell 6
19 [72]	Bell 7
20 [76]	Bell 8
21 [80]	Bell 9
22 [84]	Bell 10
23 [88]	Bell 11
24 [92]	Spectrum 1
25 [96]	Spectrum 2
26 [100]	Spectrum 3
27 [104]	Spectrum 4
28 [108]	Spectrum 5
29 [112]	Spectrum 6
30 [116]	Spectrum 7
31 [120]	Spectrum 8
32 [124]	Spectrum 9
33 [127]	Spectrum 10

WT2	Name
1 [0]	Choir
2 [4]	Choir
3 [8]	Choir
4 [12]	Choir
5 [16]	Choir
6 [20]	Choir
7 [24]	Choir
8 [28]	Choir
9 [32]	Choir
10 [36]	Choir
11 [40]	Choir
12 [44]	Choir
13 [48]	Choir
14 [52]	Choir
15 [56]	Choir
16 [60]	Choir
17 [64]	Choir
18 [68]	Choir 2
19 [72]	Choir 3
20 [76]	Formant 1
21 [80]	Formant 2
22 [84]	Formant 3
23 [88]	Formant 4
24 [92]	Organ 1
25 [96]	Organ 2
26 [100]	Organ 3
27 [104]	Organ 4
28 [108]	Organ 5
29 [112]	Organ 6
30 [116]	Organ 7
31 [120]	Metal 1
32 [124]	Metal 2
33 [127]	Metal 3

Bendrange - Range of the oscillator using the pitch bend wheel.

Keytrack - At 100%, the oscillator follows the MIDI notes for each octave at twice the frequency, which is the standard for most playable sounds. At 0%, it does not change the pitch depending on the pressed MIDI note (e.g. for drums, effects etc.).

FM - The oscillator can be FM modulated by any source. Select the source from the drop-down menu under FM and use the slider to control the amount.

Suboscillator - You can mix a square oscillator into the selected waveform. Select the octave position using the buttons.

OSCILLATOR 3+2

Oscillator 3 does not have any wavetable waveforms, but can be synchronized with oscillator 2. You can set the pulse width of the pulse waveform under PW and modulate it in the modulation matrix on the MATRIX screen. If Sync is activated, oscillator 3 is synchronized with oscillator 2. Experiment with envelope curves or LFOs in oscillator 2 in order to obtain typical sync sounds. To do so, oscillator 3 must be enabled and its level set to > 0 in the mixer.

MIXER

The MIXER mixes together the oscillator, the ring modulator and noise. Use the Route knobs to mix the respective source to Filter 1 and/or Filter 2. The Color parameter changes the color of the noise from brown to white (middle position) to pink. The two Parallel/Serial filter buttons switch the two filters parallel or in series. Furthermore, the parameters of the mixer can be changed using the modulation matrix.

FILTER 1+2

Filters 1+2 have an identical layout and, when not in use, can be disabled using the button next to the label in order to conserve CPU resources. The filters have an especially wide range of functions and feature ten different filter type models. Downstream of the filter is a distortion unit that has six different distortion modes.

Caution: At high resonance values, the level of the output can increase drastically. To be safe, turn down the output before working with high resonance values.

Filter types

■ LP24 filters out frequencies above the cutoff frequency. It is particularly well suited to bass and "punchy" sounds.

■ LP12 has less edge steepness than LP24. Frequencies above the cutoff frequency are thus cut off more softly, which is useful for creating wide pads or bass, for example.

■ BP12 and BP24 filter above and below the set cutoff frequency and thus are particularly well suited to synthetic sounds. Try a sound with Noise only and play around with the filter resonance!

■ HP12 and HP24 filter frequencies below the set cutoff frequency and thus have the opposite behavior to LP filters. HP filters are well suited to creating both lead sounds and pads. Modulated with LFO and a little resonance, they have just the right "bite".

■ Notch12 and Notch24 filter the narrow range around the cutoff frequencies and thus have the opposite behavior to BP filters. They are suitable for less prominent sounds.

■ Comb+ and Comb- are resonance-capable comb filters that can also be used as a polyphonic chorus or flanger. A comb filter is actually a very short delay, the length and feedback of which can be changed. The delay times are very short and cannot be perceived directly, but have a perceptible effect on the original signal. Because the individual delays overlap, they have effects of canceling each other out or reinforcing each other. As an illustration, this results in a behavior similar to multiple BP filters (Comb+) or notch filters (Comb-) next to each other. Cutoff adjusts the delay time of the comb filter; Resonance adjusts the delay feedback. Comb filters are used to generate more unnatural sounds and effects.

Drive types

- Light, Medium and Hard are different levels of emulation of a transistor amplifier. By using them together with Resonance, you can really make the KOMPLEXER VST scream. Hard mode is selected at the microQ import.

- Tube emulates the behavior of a tube, with soft curves and muted treble. It is especially suitable for bass.

- Shaper changes the signal by means of an approximated sine.

- Fuzz emulates classic transistor fuzz distortion.

Env Amount - Defines how strongly the filter envelope curve modulates the cutoff frequency.

Env Vel - Defines how strongly the filter envelope curve modulates the cutoff frequency depending on the velocity at which the key is pressed.

Keytrack - When Keytrack is at 100%, for example, the cutoff frequency follows the MIDI note height. Thus with Resonance and filtered noise, you can also play melodies using the filter.

Cutoff Mod - Here, any desired source can be allocated to the modulation of the cutoff frequency. You can control the modulation strength using Amount.

Cutoff FM - A special feature rarely found in other synthesizers is Cutoff FM. It can be used to create interesting sound spectrums. Experiment and hear for yourself!

Level - Level of the filter output downline of the distortion unit.

Pan - Panning of the filter.

Pan Mod - Modulation of the filter panning.

Other parameters on the main screen

LFO 1-3 - Control the speed of the LFOs (Low Frequency Oscillator); the same parameters are also present on the ENV/LFO screen.

FILTER/AMP Envelope - Control the envelope curve times of the filter and volume (Amp) envelope curves. On the main screen, you can control only Attack, Decay 1, Sustain 1 and Release. If a ADS1DS2R envelope curve is selected, Decay 2 and Sustain 2 are controlled using the ENV/LFO screen. The same parameters are also available on the ENV/LFO screen.

GLIDE - Generates a gliding or sliding transition effect between different notes (portamento). You can select the time until the next note is reached using Time. The bottom button activates a quantization that results in a staircase-shaped glide (glissando).

POLY/MONO - Activates monophonic or polyphonic playing mode.

UNISONO - Depending on the setting, Unisono lets up to six voices sound simultaneously when a single key is pressed. Detune can be used to alter the tuning of one or more voices relative to the other(s). Spread distributes the individual voices in the stereo panorama. Unisono can be used to create extremely wide, dense sounds. This function is particularly ideal for pads and aggressive lead sounds. However, be careful to not overload the processor!

ENV/LFO screen

As the name implies, you can edit the four envelope curves and the three LFOs in detail on the ENV/LFO screen. Each of the four envelope curves offers the following modes:

ADSR - Classic Attack, Decay, Sustain and Release envelope curve.

ADS1DS2R - With additional second Decay/Sustain phase. Caution—the Decay and Sustain controllers on the main screen control DS1 and not DS2.

One Shot - ADS1DS2 envelope curve that is cycled through once after the key is pressed.

Loop S1S2 - The envelope curve is endlessly looped between points S (Start) and E (End) for as long as the key is pressed. Here, point S marks the envelope curve after the Attack phase and point E marks the end of the Sustain 1 phase. If the values for Decay 2 and Sustain 2 are zero, the loop endpoint is reached as soon as the Sustain 1 phase ends. The Release phase is initiated after the key is released. The loop points are marked in the envelope curve graphic of the KOMPLEXER VST.

Loop All - The entire envelope curve is repeated for as long as the key is pressed. The Release phase is initiated after the key is released. The loop points are marked in the envelope curve graphic of the KOMPLEXER VST.

Trigger - Both modes have an effect in mono mode only. Multiple restarts the envelope curve from the beginning each time a key is pressed. Single allows the envelope curve to continue until no key is pressed. Therefore, with the single trigger, a melody played legato follows a single envelope curve shape.

LFOs

The three LFOs (Low Frequency Oscillators) likewise have an identical layout. LFO 3, however, has an additional Step Shape function.

Delay - Delays application of the LFO after the key is pressed.

Fade - Positive values cause the amplitude of the LFO to increase starting at 0, and the LFO effect is faded in. Negative values, on the other hand, cause the LFO to have its full effect as soon as the key is pressed, after which it is faded out.

Keytrack - Changes the LFO frequency depending on the MIDI note.

Startphase - Click the waveform display of the LFO and drag it to change the start phase of the LFO. This parameter has an effect only if Clock is disabled.

Sync/Clock - The different combinations have the following effect:

Sync Off / Clock Off - LFO of each voice runs free in phase, depends on start phase.

Sync On / Clock Off - LFO of each voice is in one phase, depends on start phase.

Sync Off / Clock On - LFO speed depends on the song tempo, LFO of each voice runs free in phase, depends on start phase.

Sync On / Clock On - LFO speed depends on the song tempo, LFO of each voice in one phase, independent of start phase. Phase is based on the beat position of the song.

Shape - Sine, Triangle, Square, Saw, Random, S&H, the Step Shape can be defined by the user. With Step Shape enabled and Clock On, particularly lively sounds can be created and rhythmically integrated into a song.

Contour - This parameter smooths the envelope curve of the step waveform with falling edges.

MATRIX screen

The MATRIX screen consists of the MODULATION, ARITHMETIC and MACRO controller areas.
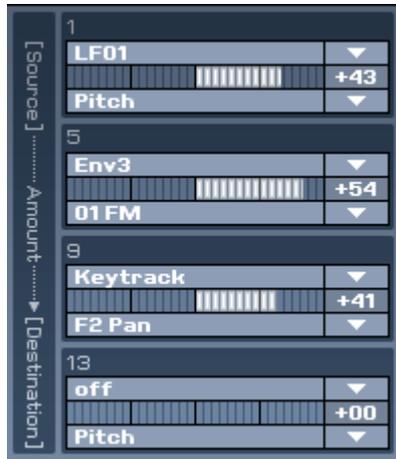
Using the modulation matrix, you can make up to 16 different connections, similar to a modular system. In each modulation cell, you can set a source, amount and destination. Examples of sources include LFOs, envelope curves, Keytrack or Velocity. Almost all parameters of the KOMPLEXER VST are available as destinations, allowing you to fulfill even exotic wishes. Using the modulation matrix, you can adapt the sound architecture completely to your needs. The following sources and destinations are available:

Sources

off	Control W
LFO1	Control X
LFO1*ModWheel	Control Y
LFO2	Control Z
LFO2*Pressure	Ctrl Delay
LFO3	Arithmetic 1
FilterEnv	Arithmetic 2
AmpEnv	Arithmetic 3
Env3	Arithmetic 4
Env4	Minimum
Keytrack	Maximum
Velocity	Voice Num
Release Velo	Voice %16
Pressure	Voice %8
Poly Pressure	Voice %4
Pitchbend	Voice %2
Modwheel	Unisono V
Sustain Ctrl	U. Detune
Foot Ctrl	U. De-Pan
Breath Ctrl	U. De-Oct

Destinations

Pitch	F1 Cutoff	AE Sustain
01 Pitch	F1 Reson.	AE Release
01 FM	F1 FM	E3 Attack
01 PW	F1 Drive	E3 Decay
02 Pitch	F1 Pan	E3 Sustain
02 FM	F2 Cutoff	E3 Release
02 PW	F2 Reson.	E4 Attack
03 Pitch	F2 FM	E4 Decay
03 FM	F2 Drive	E4 Sustain
03 PW	F2 Pan	E4 Release
01 Level	Volume	M1 Amount
01 Route	LFO1 Speed	M2 Amount
02 Level	LFO2 Speed	M3 Amount
02 Route	LFO3 Speed	M4 Amount
03 Level	FE Attack	01SubDiv
03 Route	FE Decay	01SubVol
Ring Level	FE Sustain	02SubDiv
Ring Route	FE Release	02SubVol
Noise Level	AE Attack	
Noise Route	AE Decay	

ARITHMETIC

The ARITHMETIC section is really something special. You can use it to link two operands using logical functions. The results are available as modulation sources. A simple example is inverting an LFO waveform. To do so, multiply the LFO by a negative constant value. You can then select the inverted waveform as the source under "Arithmetic 1".

MACRO controller

Here, you can program the powerful MACRO controllers. Each MACRO controller can control up to four parameters simultaneously, and each controls all four layers of a sound at once. Thus, for example, the MACRO Expression controller can be used to simultaneously change the Cutoff and LFO speed of Layers 1 and 3. Select the corresponding MACRO controller for programming. The four subsections below always pertain to the currently selected controller and each represent a parameter to be controlled. The MACRO controllers can also be allocated to the parameters of Effects 1 and 2. The tables below describe the allocation:

Effect 1	Chorus	Flanger	Phaser	(Over)Drive
Parameter 1	Speed	Speed	Speed	no allocation
Parameter 2	Depth	Depth	Depth	Drive
Parameter 3	no allocation	no allocation	no allocation	Post Gain
Parameter 4	Delay	no allocation	no allocation	no allocation
Parameter 5	no allocation	Feedback	Feedback	no allocation
Parameter 6	no allocation	no allocation	Center	Cutoff
Parameter 7	no allocation	no allocation	Spacing	no allocation
Parameter 8	no allocation	no allocation	no allocation	no allocation
Parameter 9	no allocation	Polarity	Polarity	no allocation

Effect 2	Chorus	Flanger	Phaser	(Over)Drive	Delay	Reverb
Parameter 1	Speed	Speed	Speed	no allocation	no allocation	Size
Parameter 2	Depth	Depth	Depth	Drive	no allocation	Shape
Parameter 3	no allocation	no allocation	no allocation	Post Gain	no allocation	Decay
Parameter 4	Delay	no allocation	no allocation	no allocation	Delay	Predelay
Parameter 5	no allocation	Feedback	Feedback	no allocation	Feedback	no allocation
Parameter 6	no allocation	no allocation	Center	Cutoff	Cutoff	Low Pass
Parameter 7	no allocation	no allocation	Spacing	no allocation	no allocation	High Pass
Parameter 8	no allocation	no allocation	no allocation	no allocation	Clock On/Off	Diffusion
Parameter 9	no allocation	Polarity	Polarity	no allocation	Polarity	Damping

For each parameter, you can now define in which knob range it is affected by the MACRO controller and how strongly it is affected. Here, the Max and Min values define the maximum and minimum values that the parameter can have. It is also possible to create negative directions. Range Min and Range Max define the turning range of the knob in which the parameter is changed.

LAYERS selects the layers to which the selected parameter is applied.

Application example

Let's assume you want to use the Expression MACRO controller to increase the resonance of Filter 1 at low cutoff values. Enter Cutoff under Allocation 1, Parameter F1; enter Resonance under Allocation 2, Parameter F1. Layer 1 must be activated for both. Assuming very low cutoff values do not make sense for this sound, set the Min Value to 60. Now, you control the cutoff of Filter 1 from 60 to 127 by turning the Expression MACRO controller by 270°. To increase the resonance for low cutoff values, set the Max Value in Allocation 2 lower than the Min Value. Then, limit the range in order to control the resonance within the range from 70° to 140° only.

ARP/FX screen
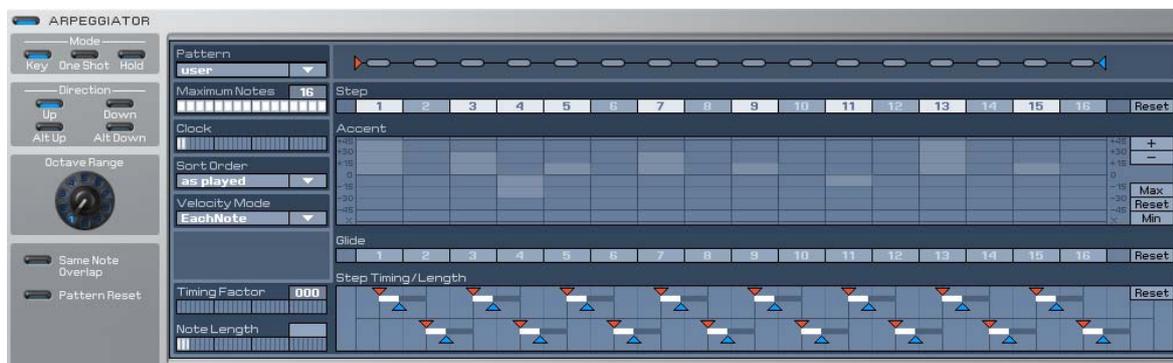
Another highlight of the KOMPLEXER VST is the arpeggiator. You can use it to output certain sequences of notes when a key is pressed.

Mode

Key - The pattern is played for as long as a MIDI note is pressed.

One Shot - The pattern is played through once.

Hold - The pattern is played until the arpeggiator is switched off or switched to another sound.

Direction

The Direction modes function as described if Sort Order Num Lo>Hi is enabled:

Up - All pressed notes are played in a loop from bottom to top.

Down - All pressed notes are played in a loop from top to bottom.

Alt Up - All pressed notes are played in a loop from bottom to top, then from top to bottom.

Alt Down - All pressed notes are played in a loop from top to bottom, then from bottom to top.

Octave Range - The upper range of the pressed notes is extended by adding the set number of octaves.

Pattern - 16 predefined patterns and one user pattern are available. The user pattern can be programmed in the right field.

Pattern length - The long chain of bars next to "Pattern" has a blue triangle at its end with which you can define the number of steps of a pattern.

Step - Here, you can activate the steps to be played.

Accent - Here, you can change the volume of the individual steps. The values set here work in dependence on the Velocity value set on the main screen (Amplifier). If you have set the maximum value for Velocity on the main screen, the Accent effects of the arpeggiator are also at the maximum. If the Accent value of a step is set to X and the Velocity on the main screen is set to maximum, the respective step is played silently. Therefore, unlike Step On/Off, the glide effects around this step are preserved. You can rotate the steps using the + / - buttons on the right edge of the Accent row. Max, Min and Reset pertain to Accent.

Glide - Here, activate the glide effect for each step.

Step Timing/Length - Here, you can determine the note length and timing for each step. Timing and Length are dependent on the values for Timing Factor and Note Length.

FX1

Effect 1 is available once for each layer. The Mix fader functions as a dry/wet fader. At position 0, you hear the dry sound only; at position 64, you hear an equal proportion of

effect and sound. At 127, you only hear the effect. You can switch between Chorus, Flanger, Phaser and Drive using Type.

FX2

Effect 2 is available once (globally) for all four layers. For each layer, you can define the proportion of the effect Mix fader. The Mix fader functions as a dry/wet fader. At position 0, you hear the dry sound only; at position 64, you hear an equal proportion of effect and sound. At 127, you only hear the effect. You can switch between Chorus, Flanger, Phaser, Drive, Delay and Reverb using Type. FX2 is always output at the first stereo output, even if it is used by more than one layer.

Automation

Of course, all parameters of the KOMPLEXER VST are available to the host software, VSTi Automation.
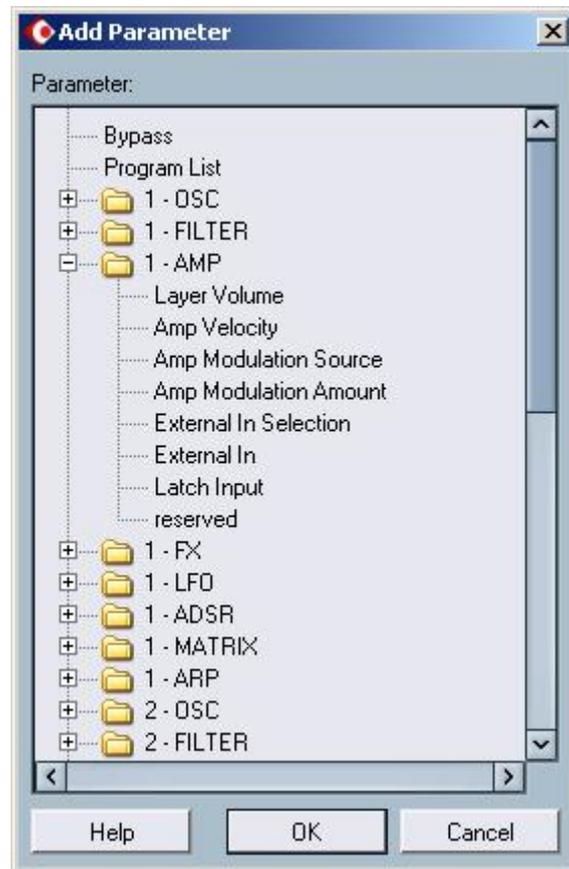
The KOMPLEXER VST automation parameters in Cubase SX

System requirements – PC

- ■ Pentium 3, 1000 MHz – AMD Athlon, 800 MHz
- ■ 512 MB RAM
- ■ Windows SE/ME/2000/ XP or higher

System recommendations – PC

- ■ Intel Pentium 4, 2800 MHz – AMD Athlon 64, 1800 MHz
- ■ 1024 MB RAM
- ■ Windows XP with Service Pack 1 (SP1) or higher