

Advanced Features

A whole second page of Advanced Features is hidden behind a button.

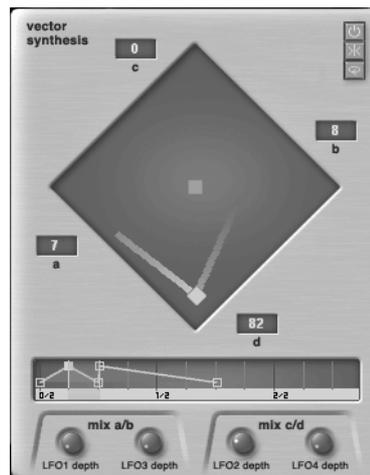


To unveil them, click the Advanced tab top left of the Xphraze Logo.



The Advanced page offers offers powerful enhancements such as User Multisample Import, Vector Synthesis, Xmix or Master FX.

Vector Synthesis



ENGLISH

The Vector Synthesis in XpHRAZE is - technically speaking - an envelope controlled vector which controls the balance of the four patch slots.

Each corner of the rhombus represents a patch slot, and when the vector position is in the corner, only this patch slot is audible.

-
- p On hardware synthesizers applying vector synthesis, the vector used to be controllable by a joystick.
-

The vector envelope right underneath the rhombus doesn't actually have level settings - it just sets the times the vector needs to move between the preprogrammed positions. Each point in this envelope represents a joystick position.

When you hit a key, the envelope automates the joystick, this way creating stunning rollercoaster movements between the four patches. Since the envelope is loopable, you can create LFO like modulations as well.

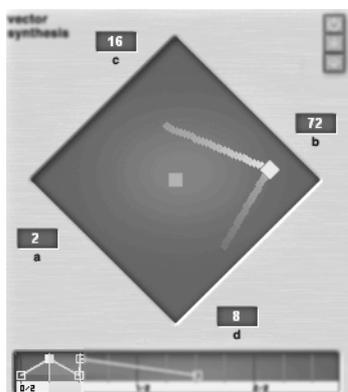
-
- p A green „animated vector“ in the rhombus display reflects the current Vector position. Use this to monitor the Vector curve while editing.
-

Setting up the Vector Envelope

Setting the vector curve is dead easy:

1. Click the first envelope point to select it
2. Click and drag the vector (blue square) inside the rhombus to the desired mix position.
A blue line attached to the vector represents the way from the previous vector point, the orange line to the next.
3. Click the next envelope point and set the vector position.
A blue line attached to the vector represents the way from the previous vector point, the orange line to the next.
4. Set the time it shall take the vector to move between point 1 and 2 by moving point 2 horizontally.
5. Repeat steps 3 and 4 until you've set up the curve.

Reading the Vector Display



Take a look at the picture above and read along to get an understanding of the displays and controls:

- The large dot within the rhombus is the vector. It represents the selected envelope point (second point in the envelope shown).
- The lines next to the vector indicate the vector movement from the previous resp. to the next vector point.
- The displays labelled a to d show the current mix level of the corresponding patch slot.

Activating and setting up Vector Synthesis

The three little mode buttons in the top right corner of the Vector Synthesis section are used to activate and set up the Vector Synthesis function:

The on/off button needs to be activated for the Vector Synthesis to work (default: off).

The Sync and Loop buttons refer to the vector envelope and are explained in the chapter ›Programming Xphrase Envelopes‹ on page 24.

Using LFOs to modulate the Vector



You can use the LFOs of the current Patch in Slot 1 to modulate the Vector. The LFO section provides individual control of both A/B and C/D balances using any of the four LFOs, with LFO 1 and 3 assigned to A/B and LFOs 2 and 4 assigned to C/D.

-
- p With LFO modulation you can create stunning morphing and panning effects which become even greater when you use Xphrase in a surround setup and e.g. have the patch slots A/B assigned to the front and C/D to the rear speakers.
-

Xmode

Xmode allows you to switch Phrase Buffers with keys on your keyboard.

It uses the keys G, A, B and C within the selectable root octave to change between Buffers 1, 2, 3 and 4.

You can deliberately adjust the Xmode octave to suit your keyboard, and you can activate Xmode for each patch slot separately. The Xmode setting is global for all Combis and Patches.

To activate Xmode:

1. Choose the Xmode root octave. E.g. for a 61-key keyboard you may want to it to G6. In this case, the upper four keys of your keyboard become Xmode switches.
 2. For each Patch Slot you want to use Xmode in, activate the corresponding button. Of course Xmode works separately for the four slots when they are set to different MIDI channels, but the root octave is always the same.
-
- p For good reasons the Xmode keys don't play notes. If a set of keys from G to C does not seem to work, check the Xmode setting of the corresponding patch.
-

Xmix

Yet another nearly invisible but extra-ordinarily powerful function in Xphrase called Xmix („Xtended Re“mix“).

Technically it is pretty simple: One of the 12 MIDI channels above 4 can be set as the Xmix channel. On this channel the keys between C1 and C4 serve as remote keys and can be used e.g. to mute/unmute Patch Slots and to select Phrase Buffers.

Assuming you have set up a Combi with four patches and up to four different buffers each, a MIDI keyboard or any MIDI controller sending notes can be used to remote-control Xphrase in realtime. Theoretically you could arrange a whole song without touching anything but your MIDI controller. This is a powerful feature for stage and remixing situations, but - like a musical instrument - it needs a little practice.

Remote Key Assignment

The Xmix channel key assignment is optimized for a 5 octave keyboard but can as well be used with smaller keyboards. The keyboard gets divided into three zones:

- Control Zone (C1 - B1): Keys in this zone mute/unmute patches and set Omni Mode as well as Key Transposition
- Buffer Select Zone: For each Buffer in each Patch Slot there is a dedicated select key.
- MIDI Key Zone: In this zone the keyboard functions normally, i.e. sending MIDI notes.

In practice, you would hold notes or chords in the MIDI Key Zone while arranging and remixing in the Control and MIDI Key Zone.

You can pre-program whole songs in Xphrase and take them on stage for live performances. Or you can automate Xphrase very flexible in your songs by recording the remote keys on the Xmix Channel onto MIDI tracks.

Example: You could put Drums in Patch Slot A, Bass Line in Patch Slot B, Chord in C and Riffs in D. Each Patch Slot can have four variations (Intro, Verse, Chorus, Fill or different scales or complexities). By holding chords/notes, muting/unmuting slots and switching buffers, you can arrange your song live and in realtime. This is also a very intuitive song creation method.



Xmix Channel Key Assignment

Key	#	Function	Explanation
Control Zone			
C1	36	Patch A on	Activates Patch Slot A
C#1	37	Patch A off	Mutes Patch Slot A
D1	38	Patch B on	see above
D#1	39	Patch B off	
E1	40	Patch C on	
F1	41	Patch C off	
F#1	42	Patch D on	
G1	43	Patch D off	
G#1	44	Omni Mode on	Sets Omni Mode to On. This means that the MIDI Key Zone (above C4) plays all patches regardless of their MIDI channel setting.
A1	45	Omni Mode off	Sets Omni Mode back to Off
A#1	46	Key Transpose Cycle (-1 Octave /- 2 Octaves /- 3 Octaves)	Transposes the MIDI Key Zone down in Octaves. Repeatedly pressing the key cycles through -1 ... -2 ... -3 octaves.
B1	47	Key Transpose 0	Sets Key Transpose back to zero.
Buffer Select Zone			
C2	48	Patch Slot A	Selects Buffer 1
C#2	49		Selects Buffer 2
D2	50		Selects Buffer 3
D#2	51		Selects Buffer 4
E2	52	not assigned	-
F2	53	Patch Slot B	Selects Buffer 1
F#2	54		Selects Buffer 2
G2	55		Selects Buffer 3
G#2	56		Selects Buffer 4

A2-B2 57-59 Not assigned			
C3	60	Patch Slot C	Selects Buffer 1
C#3	61		Selects Buffer 2
D3	62		Selects Buffer 3
D#3	63		Selects Buffer 4
E3	64	not assigned	-
F3	65	Patch Slot D	Selects Buffer 1
F#3	66		Selects Buffer 2
G3	67		Selects Buffer 3
G#3	69		Selects Buffer 4
A3-B3 69-71 not assigned			
MIDI Key Zone			
C4 and higher keys function as normal MIDI keys			

- p The Xmix channel does not affect the functionality of any of the MIDI channels set in the Patch Settings section - they are still fully operational.

Setup



The setup section allows you to adjust global Xphraze settings.

Resampling Quality

Resampling is needed whenever a sample has to be transposed, pitched or sample-rate converted. The resampling quality parameter determines how much effort is used to retain the original quality of the sample during resampling. Since Xphraze does a lot of transposing and pitching, the Resampling Quality setting practically affects the overall quality of the Xphraze audio signals.

- Best - best quality, but almost doubled CPU load compared to Good. Use only if you have a very fast computer and lots of CPU reserves.
- Good - normal setting, just slight difference compared to Best, but reasonably less CPU load.
- Fast - Audible artefacts (LoFi), but minimum CPU load. Use only if you have a slow computer or when you intentionally want a LoFi sound quality.

Voices

This parameter sets the global voice limit, allowing you to prevent Xphrase from overloading your CPU.

This is how you find the right setting:

1. Open the CPU Performance Meter of your host (Cubase SX/SL/V-Stack: Select VST Performance from the Devices menu)
2. Load up a very CPU-consuming Combi (check the performance meter while browsing Combis), preferably one with long release times, Unison on and the like, and set the voices parameter in all four patches to 32 or higher.
3. Set the global Voice Limit to a safe value (e.g. 16)
4. Now deliberately play notes, while slowly increasing the voice limit until the CPU performance meter reaches 50% (depending on whether you plan to use Xphrase stand-alone or not, you can go up to 90%).

Save-include User Samples

This option only applies when you're using user multisamples. When checked, saving a Patch or Combi includes the user multisamples it uses.

This allows you to transfer patches/combis with user multisamples to another computer (or email them to a friend) without having to copy the multisample folder in the pool.

Enhanced Live Feel (ELF)

Xphrase is an extraordinarily accurate instrument in terms of timing, pitch or modulations - and this is pure intention. However, there are many musicians who appreciate a more organic, analog, living feel.

This is what we've developed ELF for. It is a very complex yet subtle algorithm that varies timing, pitch, lengths, mod speeds and other parameters within Xphrase. It has no parameters (which is why you may want to call it Enigmatic Live Feel) because we want to prevent you from messing up the sensitive coherence between the many parameters involved. Just switch it on for more organic feel and enjoy.

Loading and saving the Setup

VST has two file types: Instruments and Banks. The Instrument file type is assigned to Combi files in Xphrase.

Since there can always be just one Combi loaded at a time (so there's actually no need for a Bank file), the Bank file type loads and saves a Combi plus the Setup. Saving and loading Setup can come in handy to transfer your preferred Xphrase settings to different computers.

Master FX Section



Xphrase features a Master FX section consisting of 4 separate FX processors. The four sections are routed parallel, with each assigned to a different output.

All patches routed to a specific output are run through this output's Master FX. At the same time, by assigning all four patch slots to different outputs there's a second FX section per patch available.

These effects are slightly more complex and higher-quality than the patch FX, but you cannot modulate them and they are not an integral part of patches. The main purposes of the Master FX section are ...

- providing you with additional reverb, delay and other typical Master FX in case you use Xphrase in a host that has no effects on its own (e.g. stand-alone VST wrapper)
 - Giving you a second effect routed after the patch FX (so you can combine e.g. a modulatable chorus with a subsequent stereo delay).
-
- p Like the patch FX, these effect algorithms are designed with effectiveness in mind - they don't live up to the expectations of professional sound engineers when it comes to mixing and mastering. If you're after a serious reverb for a professional production, you should prefer a decent, costly studio reverb. But if you just need some reverb for sound design or for some ambience on stage, hey - it's there, and it doesn't cost you a fortune in terms of CPU cycles.
-

Routing patches to the Master FX

Each of the Master FX is assigned to its correspondingly numbered Xphrase output. By assigning a patch to an output (see ›Output‹ on page 45) you route it to the corresponding Master FX.

Activating and setting the FX mix

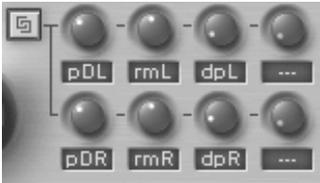
You activate each FX section with its on/off button.

-
- p Make sure to switch off unused Master FX because they use up a little CPU even when no signal is routed through them.
-

Turning the Mix knob counterclockwise adjusts the balance of dry and wet (effect) level.



Effect parameter layout



The Master FX section has eight parameter knobs, allowing you to set all parameters individually for the left and right channel in most of the algorithms.

Activating the link button left-next to the knobs auto-aligns the knobs for both channels.

Effect type overview

The following table explains all Master FX types and lists their parameters. Each of the parameters is usually available separately for both channels (marked „L“ or „R“ in the parameter name):

Type	Description	Parameter 1	Parameter 2	Parameter 3	Parameter 4
Stereo Reverb	Simple but effective reverb algorithm offering a range of room ambience effects.	Pre Delay	Release Time	Damping	-
Stereo Delay	True stereo delay. You can set delay times separately for left and right channel.	Delay Time	Feedback	-	-
Cross Delay	Cross delay – effect signal is cross-fed between the stereo channels.	Delay Time	Feedback	-	-

Type	Description	Parameter 1	Parameter 2	Parameter 3	Parameter 4
Stereo Flanger	True Stereo Flanger.	Delay Time	Speed	Mod depth	Feedback
Stereo Chorus	True Stereo Chorus.	Delay Time	Mod depth	Speed	
Ensemble	Combination of three chorus effects with slightly different speed and depth settings. The Width parameter adjusts the speed difference between the three chorusses.	Delay Time	Mod Speed	Mod Depth	Width (global)
3 Band EQ	Lo, mid and high frequencies can be boosted or attenuated. The center position of the knobs leaves the gain unaffected.	Low Gain	Mid Gain	High Gain	-
Stereo Phaser	True Stereo Phase Shifter.	Feedback	Speed	Depth	-
Vynlizer*	Adds three characteristic side-effects of vinyl records to the audio signal, all of which are adjustable in gain.	Crackle	Noise	Hum	Hi Frequency (Lowpass Filter)
LoFi	LoFi effect limiting the higher frequency range of the signal (like old analog tape machines). Great for creating old school drum-loops.	-	-	Sample Freq	
Stereo Compressor**	Simple but effective compressor.	Threshold	Attack Time	Release Time	Ratio / Make-up-Gain

p *The Vynlizer generates its signal independently of the input signal. If you just want to add crackle, noise or hum and not use the lowpass filter, you can assign the Vynlizer to a free output and free up the Master FX slot of the input signal.

p The Stereo Compressor does not have separate controls for the stereo channel, and it has a fifth parameter.

Importing user (multi)samples

Xphrase comes with a large number of „ROM“ waveforms and multi-samples that cater to any taste and musical style.

On top of that, Xphrase even allows you to import your own multisamples and use them in the Phrase Generator. The multisample pool can hold up to 64 user multisamples, and user multisamples can be saved with patches and combis.

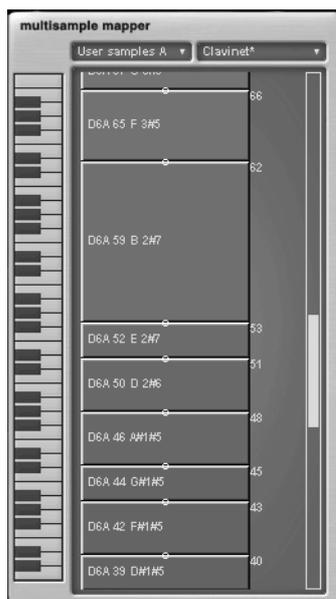
This way you can use multisampled instrument sounds as well as vocals, drumloops or sound FX within Xphrase.

-
- p User sample import is effective, but kept basic. Xphrase is not a sampler and does not import any sampler program formats, but it allows importing and auto-mapping multiple samples at a time.
-

Supported formats

Xphrase imports WAV or AIFF files. It reads root key, tuning and key zone info if available in the sample, and it tries to intelligently automap samples when you import a multiple selection at once.

Creating and using Multisamples



The place for creating and editing Multisamples is the Multisample Mapper. Here you can create and manage Multisamples, import audio files, edit the key zones and save the Multisamples to the pool (i.e. to disk).

Once you've created a Multisample, you can leave the Advanced Page and carry on working with Xphrase as normal. The Multisample will be available - just like the factory Multisamples - in the Multisample menu of the Phrase Generator.

User Sample RAM

Xphrase keeps User Multisamples in a special RAM area. This area is divided into 4 slots (corresponding to the patch slots), and each area can hold up to 16 multisamples.

While creating, editing and saving User Multisamples is reserved to the Advanced Page, you can load, rename or delete multisamples in the „msamp“ mode of the file browser - just like Combis or Patches.

Creating a new multisample

To import one or more samples, you first have to create a new multi-sample:

1. First choose one of the four User Sample Slots (corresponding to Patch Slots)
-
- p For organizational reasons each patch slot has it's own set of up to 16 user multi-samples. A user sample created in slot A will be assigned to patch slot A first. By using the „Msamp“ mode of the file browser you can later assign any multisample to any patch slot.
-
2. Right-click into the empty sample area in the multisample mapper.
 3. Choose „Create new multisample“ from the context menu.
 4. Type a name for the new multisample into the field top right of the sample area (it's pre-selected automatically).
-
- p A multisample manages the audio files assigned to it and will appear later in the multisample menu of the Phrase Generator.
-

Inserting audio files

Once you've created the empty multisample „cocoon“, you should assign audio files to it.

You can import any number of samples at a time. To insert audiofiles:

1. Right-click into the empty sample area.
2. Choose „Insert audio files“ from the context menu.
3. In the file dialog, locate the folder with the samples you want to import, select them and click OK.

Xphrase will now import the samples and automatically map them as follows:

- If you imported one sample only, it will be mapped across the full key range
- If you imported a multiple selection with key zone and/or root key info, it will map the samples to midi notes accordingly.

- If you imported a multiple selection with none of that info, it will map the first sample to C3 and assign the other ones chromatically upwards.
- In any case, by definition Xphrase only accepts adjacent key zones, i.e. all keys must be assigned to audio files.

Test playing Multisamples

You can setup Xphrase so you can play multisamples while editing

1. Choose the Init Combi from the Factory Library
2. Select Patch Slot A
3. In the Phrase Generator, choose the category „User Samples A“
4. Select either the multisample you’ve already created or the slot you’re going to create a multisample in.

Managing Samples (Audio files)

Mapper Area Display

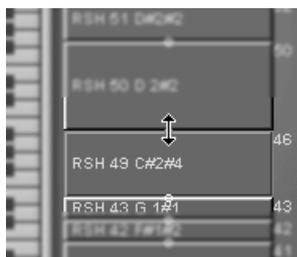
When a Multisample is selected, the Mapper Area displays (from left to right):

- a vertical MIDI keyboard (display only)
- The sample(s) are displayed as zones labelled with the sample name.

The upper and lower note of the zone the sample is assigned to

Changing the key mapping

You can change the key mapping of a multisample any time later by clicking on the little dot between two samples and dragging it to the desired key.



Viewing Sample Information

Right-clicking on a sample opens a context menu displaying sample information, i.e.:

- Low Key, High Key
- Root Key
- Length in seconds, file size in kB
- Channels, Sample Rate, Loop Info

p These parameters can not be edited within Xphrase, just viewed. To edit samples we recommend a dedicated audio editor such as Steinberg Wavelab.

Deleting a sample

To delete a sample from the map,

1. Click on it to select it.
2. Right-click it and select „delete sample“ from the context menu
Xphrase will automatically close the gap created by the deletion.

Replacing a sample

You can replace a sample by importing another one that takes it's place:

1. Click the sample you want to replace
2. Right-click it and select „replace sample“ from the context menu
3. In the file dialog, choose a sample to replace the current one

Managing Multisamples in the Multisample Mapper

Saving a Multisample to Disk

You need to save a Multisample to disk in order to make it permanent, otherwise it gets lost as soon as you close Xphrase or your host application.

- To save a multisample to disk, right-click into the empty area right next to the samples and choose „Save Multisample“ from the context menu. The multisample including all samples gets saved into the User Samples folder within the Xphrase VSTi folder (file extension is *.xms).
- To save all new multisamples at a time, choose „Save all Multisamples“

p Xphrase will require the „User Samples“ folder for managing user samples. Please don't move or rename the folder.

Unloading a multisample

To delete a multisample from RAM, right-click into the empty area right next to the samples and choose „Unload multisample“ from the context menu.

Renaming a multisample

To rename a multisample in RAM, right-click into the empty area right next to the samples, choose „Rename multisample“ and type the new name into the name field.

Using Multisamples in the Phrase Generator

Multisamples are handled by the Phrase Generator just like the factory Multisamples included with Xphrase.

Multisamples held in a slot (A to D) of the User Sample RAM are visible in the Multisample selector of the respective Patch.

To use them you just select them for the desired cells.

Loading a Multisample into a Patch Slot

User Sample RAM can hold up to 16 Multisamples per Patch Slot.

To load multisamples into a slot:

1. Switch the file browser to „msamp“ display mode. It automatically relocates to the User Samples folder.
2. First, select the Patch you want to load the multisample into.
3. Right-click on the multisample you want to load.
4. From the context menu, choose „Load to User Multisample x“ where x is a number between 1 and 16.

Using a Multisample in another Patch Slot

The division of the User Sample RAM into slots does not mean you cannot use a Multisample created in Slot A in another slot.

All you need to do is save it to the pool and load it into any other slot.

-
- p Loading a Multisample into a second slot does not double its RAM consumption since RAM is shared among multiple RAM instances of a Multisample. This applies to the Factory Multisamples as well.
-

Renaming and deleting Multisamples

As an alternative to the Multisample Mapper, Multisamples can be deleted and renamed in the File Browser as well. Just right-click the multisample and select the desired option.

Reference

MIDI Controller Table

##later##

Multisample Reference

##later##

Managing CPU power

Xphrase provides several means to significantly it's limit CPU load. As mentioned in chapter ›A note on CPU performance‹ on page 10, Xphrase does not limit you in terms of voices, effects or other CPU-intensive features by default. For owners of slower computers however, this may create problems which can be addressed easily. Here's a list of measures you can take to minimize the CPU load of Xphrase in general or a specific patch or Combi

Global Methods

Global Voice Limit

See paragraph ›Voices‹ on page 10 to find out how you can set the global voice limit of Xphrase to match your CPU.

Resampling Quality

See paragraph ›Resampling Quality‹ on page 9 - setting the Resampling Quality to a lower value can significantly reduce the CPU load.

-
- p You can use a lower quality setting while arranging to save CPU. Set the parameter to „Best“ when exporting audio (CPU doesn't matter here because Export Audio works offline and not in realtime).
-

Methods on Combi Level

Switch off unused patch slots

Make sure that patch slots that are active are actually used or at least useful. Switching off patch slots significantly reduces CPU load (due to less voices being played).

Switch off unused Master FX

Make sure that active Master FX are actually used. Switching off Master FX can reduce CPU load depending on the FX algorithm - e.g. reverb or ensemble are pretty CPU-intensive.

Methods on Patch Level

Reduce the number of voices per patch

This is actually the most effective method for most situations: Make sure the number of voices used in the patch is limited to the number they actually need. Especially in patches with longer release times, this is the most effective method.

-
- p The factory patches and combis have voice limits pre-set for average computer systems.
-

You can also set lower voice limits for patches which play in the background, i.e. where cutting off voices is not so obvious.

Replace Unison by Ensemble

In Unison Patches, one note needs 4 times more voices. In many cases, the ensemble effect does the trick while using significantly less CPU load:

1. Switch off Unison first
2. Activate the FX section, choose Ensemble and turn up all parameters to center position. From here, tweak the effect settings until they match the unison setting used before.

-
- p This method, combined with patch voice limit, is the most effective CPU saving method for Unison patches.
-

Switch off Filters

A patch with filters activated needs up to 100% more CPU than a patch without filters. Make sure the filter is actually needed in that patch and, if not, switch the filter off.

-
- p This is a method that can actually change the sound character / quality of a patch, so you should only use it if the previous method have not freed up enough CPU.
-

Replace effects by simpler algorithms

In the FX section, some effects are heavier on CPU than others. The most CPU-intensive effects are Reverb and Ensemble. By replacing Reverb by a delay and Ensemble by a Stereo Chorus, you can free up CPU.

Of course, you can also temporarily switch off the effect to check if it's actually needed and, if not, leave it off.

-
- p This is a method that can actually change the sound character / quality of a patch, so you should only use it if the previous method have not freed up enough CPU.
-

Audio Card and Latency

Although a VST instrument like Xphrase is practically latency-free, high latency times (delays between hitting a key on your MIDI keyboard and a sound being heard) can occur - so-called latency.

In most cases latency is caused by the audio card or the MIDI interface, although it won't be an issue when playing back a song with a Xphrase MIDI track.

A typical SoS message in VST forums: „My VST instruments are so slow, I cannot get them to play at less than 500 ms delay“. In 99% of these cases a not ASIO-compatible audio card is the reason.

Built-in audio cards that come with your computer are definitely not suitable for the use with an audio production system running instruments like the Xphrase.



You will need an audio card equipped with an ASIO 2.0 driver, such as Steinberg's VSL-2020.

Get help from the developers and other users

Apart from the Steinberg support, there is a very active and helpful VST instrument forum at www.cubase.net where you can find help and exchange info and solutions with other users of the Xphrase as well as with the developers.

Point your browser to www.cubase.net and click „VST Instruments and Virtual Effects“ to get to the VST instrument forum.

Credits

Click the Steinberg or Wizoo logo in the Pitch section for detailed information on who was involved how in creating Xphrase.

