

KickLab XXL Manual

Virtual kickdrum designer



Operation Manual for KickLab XXL software version 1.0

Introduction by Darren Glen:

"Kicklab XXL is the most advanced Kickmaking machine on the market, with the whole vst dedicated solely to the most important percussion element of any electronic track, the KICK.

Kicklab XXL features many original and unique functions and tricks that are often employed by the most savvy dj producers/engineers to get their kicks well and truly NAILED and brings all of these together into one beautiful interface. Kicklab XXL has two powerful sound-generating sections, a Virtual Kick Synth and a Kick Sampler section [with import functions] to rejuvenate your static kick samples with big, warm powerful synth kick sub. With filters on the sample to avoid frequency cancellation, phase change buttons to help match bottom end, delay trims to line up both kick attacks exactly, volume mixing with EQ and saturation options the KICKLAB XXL will create the big, in-your face, round stomping kicks with deep sub that you always dreamed of."

Darren Glen

KickLab XXL specifications

Virtual section

Sub Oscillator Sine and Triangle
Pitch Adjust
Pitch shaper
AD Envelope Generator
Puncher
Click Generator
Distortion
SV Filter with LP/HP/BP/Notch/Peak filtermodes and Velocity Tracking

Sampler Section

Double Precision Stereo Sampler
Trim section
Loop/Forward/Reverse/Key Follow
4 Octave Pitch Adjust
Stereo/Mono Switch
ADS Envelope Generator
Easy scrolling thru samples with previous/next buttons
Stereo SV Filter with LP/HP/BP/Notch/Peak filtermodes and Velocity Tracking

Mixer Section

3 band EQ with Hi and Low frequency split adjust
Saturator with depth and limiting
Phase invert (Virtual and Sampler Sections)
Mutes (Virtual and Sampler sections)
Level Metering (Stereo Left/Right and Virtual/Sampler Output)
Channel Delay (Virtual and Sampler Section)
Main Volume Control

Preset Section

Preview Function (disables itself when host is playing)
Multi Channel Output Stereo Main/Virtual+Sampler/All
Drop down menu preset select, previous and next selectors
Regular Disk operations, load/save preset or load/save preset bank

Concept

Kicklab XXL is designed for producers who understand the importance of a good, solid Kick drum in their track. Often producers spend a large proportion of their time selecting, trimming, changing and balancing the Kick drum in their productions. It is the foundation and building block upon which all the other elements are set upon, and the reality is that a bad sounding Kick can quite simply ruin your track. For this reason many producers lean towards selecting a Kick drum sample over a "synthesized" Kick, for one simple reason.... Kick drum samples generally sound better. But the problem the producer is then faced with is a lack of control over tweaks and modifications to the sound of the Kick in a static sample. So layering techniques have developed over the years where a sample Kick is mixed with other Kick drums from different sources, Eq'd and pitch changed and mixed and tweaked...to create the desired result. Up until now this has been a combination of many different external techniques and processes all coming together, in samplers, external Fx plugins, synths and mixers. Enter...Kicklab XXL.

Method of Operation

Kicklab XXL has two sound generators, the Virtual Kick section and the Sampler Kick section. With Kicklab XXL you combine the best sonic elements of both sound generating techniques to complement each other. The Sampler Kick section helps to provide the unique transient and attack information that is often unable to be reproduced by a synthesized Kick sound. The Virtual Kick section provides a far wider range of unique control over its sound with all of its knobs to help customise the sound much more than is otherwise possible with just a Kick sample.

There are several ways of building up a Kickdrum in KickLab XXL and here are some suggestions that will give you a headstart in making the best use of Kickab XXL.

1:/ The Virtual Kick supplying the "Meat" and "Sub" of the kick sound and the Sample section supplying the "attack" of the kick, with the bottom end filtered out using the high pass filter, this is a concept suggested and recommended by Darren Glen, you will find this technique in the presets kindly provided by Darren Glen.

2:/ Having the Virtual Kick supply the full kick and the sample supplying a "hat" sample or some other attack transient, with a short decay.

3:/ The Sample section plays a reversed kick sample to give the Virtual Kick supplying the full kick a different tail, even a ducking kind of effect when used with decay and trigger delay. With the trigger delay you can adjust the tail ducking effect perfectly to the groove of your project.

4:/ Another approach is that you could have the Sample kick supplying all the main of the kick and the virtual kick supplying more midrange "thump".

5:/ The sampler section can be set to "follow keys" and therefore you could decide to trim the attack off a Kick sound leaving only its sub tail and "play" the kick tail like a musical instrument, possibly with the kick tail becoming a bass sound in your track...

6:/ A variation on suggestion 5 to "follow keys" is to have a very short trim setting on the Sampler, with Sampler Looping on, providing synth wave type sounds that can be used to generate an overtone to compliment the virtual section. The Trim Start and End can be used to tune the waveform. The closer the trims are set, the higher the pitch. With this technique Kicklab XXL can also be used as a bass instrument, the virtual section could provide the "Finger stroke" of the bass string.

...and any combination of the above or in-between. The possibilities are endless.

A Guide to Use

Kicklab XXL is a Vsti instrument. Add Kicklab to your VST Instrument rack or channel and send it a single midi note (eg C1) to trigger a kick sound. Sending a single midi note will trigger both the Virtual and Sample sections of Kicklab together at the same time.

The most important thing to decide on first is which sound generator is going to be responsible for the sub of your Kick, the Virtual Kick section or the Sample section.

As sub information is primarily sine wave there can be only one sound generator responsible for supplying the sub information of your kick, otherwise you will end up with random cancellation of sub frequencies and a combing effect that will make your kick sound far from ideal in a club. It can also make your Kick randomly change its characteristics as the sub sine waves fight it out for supremacy, as well as introduce unwanted peaks and distortion. This is obviously to be avoided.

Build your Kick from the ground up in layers, starting with the sub, and use the high-pass filter supplied from the appropriate section to remove the sub from the secondary Kick sound you are going use. Other advanced filter types are also supplied and may prove to be more suitable.

Give yourself plenty of "headroom" in Kicklab XXL when you start creating your kick, as volume levels can later creep up in many sections, including high Resonance, Punch or EQ settings. Start with low Volume knob settings for each section. The meters are there to visually notify you when internal clipping is likely to occur. High volume levels or clipping will, aside from adding distortion, traditionally reduce the deep sub bass power and response of your kick, so keep your levels reasonable. Use your ears.

Preferable the virtual and sample sections are set at the same pitch frequency in correspondance with the key of the composition, however this is certainly not mandatory as no formula is the right one, but preferable keep harmonics as much as possible in the mid and high frequency range to avoid cancellation of sub.

Another method of tackling cancellation is to adjust the pitch of each sound generator or change the phase of one of the generators and hear how the virtual and sampler kick sounds interact together and how the overall Kick sound changes, most notably the sub and lower mid frequencies.

Adjust the timing of one of the Kick sound generators with the "trig delay" knobs and pay attention to how any cancellation evolves as the two sounds morph. The different waveforms align differently in time, thus changing or at best solving the occurrence of any cancellation.

Trim the start or end of the Kick sample to reduce noise or unwanted extra sound information, think less is more.

Eq your resultant sound further with the EQ section and perhaps add some Saturation. Set volume levels for each section, adjust your overall output level with the Output Fader guided by the meters and choose to possibly send the Kicklab XXL sound generators to separate outputs to provide further individual processing (such as compression) in your DAW. You are well on your way to your own slammin' Kick!

Virtual section

The Virtual section of Kicklab XXL is a real kick synthesizer. It creates Kick drums purely from scratch without the use of any samples, and thus no two kicks are alike. The Virtual Section is designated by a blue colored panel surrounding the knobs. The Oscillator that generates the Virtual Kickdrum sound can be set up as a Sinus wave or Triangle wave. The Triangle wave can produce harsher distorted and "plasticky" kick sounds, but has also the disadvantage of losing sub content compared to a Sinus wave. Use the Sampler section to provide the sub content in such presets. The Oscillator is the first part of the sound generation process. The frequency input of the oscillator is controlled and shaped by the pitch adjuster and pitch shaper. The pitch shaper is a AHDS (Attack, Hold, Decay, Sustain) Envelope with Envelope Strength Control (Shape E). The release is predetermined and can not be changed.



The puncher section is similar to a kick foot pedal, the punch parameter controlling how hard the pedal is punched in, and the impact parameter controlling how much impact the virtual drum head receives. The Puncher is not related to the velocity sensitivity of KickLab XXL. The Puncher predetermines how much strength the Foot Pedal strikes the Virtual Bass Drum Head regardless of velocity sensitivity. The more you turn these knobs, the tougher the attack of your Virtual kick becomes.

Distortion can provide a little dirt into the kick, or can be used to produce massive hard style kick drums. Be cautious how much to apply if used with EQ and Saturation due to internal clipping if you do not want them to occur. The Distortion has a selector which can be set to strengths varying from low for subtle warmth to loudest. The plugin will never output above 0 dB, so even with the settings to loudest the plugin will not produce clips in the host mixer. The Distortion applies to the Virtual Kick section only.



It is very well possible to get internal clips when using the filter in some extreme settings, most often when having lots of, or a long decayed, sub with a Low Pass filter cutoff parameter setting close to zero, or having added too much distortion, saturation or EQ. This should be avoided when using a full sub kick drum in the virtual section. Again, the plugin output will never output above 0 dB, but internal clipping can happen. Use your ears and the graphical meters supplied to determine if your settings are causing undesired clipping.

Virtual section continued

The filter section consists of a mono State Variable filter with multiple modes (the filter is mono as the Virtual Section is mono, which is desired for low and subsonic information. The high quality filter is useful to get rid of unwanted frequencies or to roll of subsonic frequencies, for instance, with a High Pass filter. The modes are:

- Low Pass
- High Pass
- Band Pass
- Notch or Band Reject
- Peak
- Bypass



The filter also has velocity sensitivity. Vary the input velocity of the Midi notes sent to Kicklab XXL slightly between each other to change the filter position and thus make each Kick sonically different. This is especially useful for samples to bring to life an otherwise static Kick sample.

The Amp section consists of a click generator and a AD (Attack, Decay) Envelope. The click generator produces a more apparent attack on the Virtual Kick, making it more dominant in your groove. If you do not like the sound of the click, use a low pass filter in the virtual section to give the click more mid range characteristics, rolling off the high frequencies. You could also raise the resonance giving the click even more midrange, changing the "click" into "stick". Mid range boost gives the click naturally more decay as well. Please note that you might also mess around with sub frequencies, so be careful.

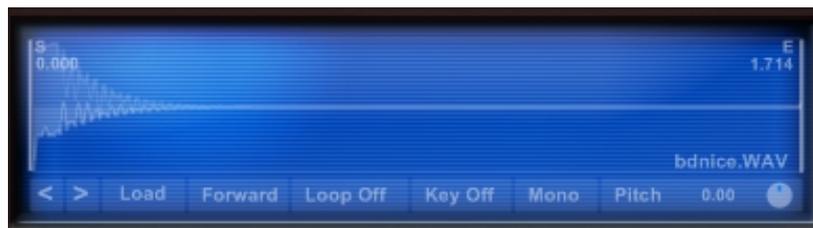


The amplifier envelope sets the Attack and Decay of the Virtual Kick. All the envelopes are in Sync with the oscillators, so you have a consistent, a precise defined sound every time a MIDI trigger is received from your controller or host MIDI track. The envelope will stop only if a note off is received with a predetermined release, just enough to eliminate any clicks. KickLab will play the kick as long as you hold a note. If you paint a note in your host sequencer make sure your note is as long as you want it to sound. Note that KickLab is polyphonic, it will not cut a MIDI note or overlapping notes when a new MIDI note is received. It will always play the note until a note off is received. This could result in unwanted sub frequency cancellation. In FL Studio's step sequencer notes will overlap as the step sequencer does send notes on only, not any notes off. To tackle this problem use the piano roll instead to sequence KickLab XXL.

Sampler Section

The Double Precision Sampler can read Mono or Stereo 16 bit and 24 bit wave files. It will display the stereo information, but the left and right sample information are merged together in the sample display. The Sampler section is designated by a red panel area surrounding the related knobs, at the bottom section of Kicklab XXL. The sampler has a trim section for the start and end to trim the sample information to your personal preference. Simply grab the visual trim bars with the mouse pointer and drag them to a new location. The sampler has incorporated all of the basic necessities you might need creating a well laid out kick drum. You can Loop, Reverse, Pitch adjust and have the sample follow keys or play at a steady pitch over all keys. Grab the Pitch knob in the bottom right of the display with the mouse cursor and turn the knob to adjust the sample pitch playback. Reversing the sample will flip the sample data and the trim start and end.

A stereo sample can be played in mono by selecting Mono in the sampler display. It is often useful to select Mono when the kick sample that you are using has sub information that is not panned center. In these cases selecting Mono will help avoid mastering problems for your track later on. Choose this setting wisely.



Sampler loading is very easy, just load a sample and you can scroll through the samples in that directory with back and forward buttons. Also clicking on the Sample name in the sample window will bring up a drop down menu for even faster selection of a wave file from the current directory, useful when you know what sample you want in a directory with a large amount of samples.

Just as in the Virtual Section, the Sampler has a State Variable Filter with the only difference being this filter is stereo. The rest of the features are identical to the filter in the virtual section.

The amplifier for the Sampler section consists of a ADS envelope (Attack, Decay and Sustain). If you want to play a very long sample to the end, instead of using the Decay parameter, turn up the Sustain knob to it's maximum position. Also for playing loops the sustain should be set to it's maximum value. It will play the sample until a note off is received. Alternatively you can use both an early trim position and a short decay knob position, to focus on the contribution of the Sample section to only a short transient attack of the Kick sample.



Mixer Section

The mixer section is more sophisticated than it looks. It is where the Virtual section meets the Sampler section, both signals are mixed and fed to the EQ and Saturator. The Mixer section is designated by a dark grey panel area surrounding the knobs.

The 3 band EQ has a frequency splitter so you can set the Low and High Frequency's to your preference. The Hz values in the blue window provide the frequency (click, hold and move up or down to change the frequency split) and the knobs provide the boost or cut setting. To emphasise, adding or subtracting Bass, Mid or High frequency's with the Low, Mid and High parameters is not static like other traditional 3 band EQ's. With the frequency splits, the EQ can provide a Roll off of low frequencies below 35 hz or above 16000 hz easily. The EQ has a range from 35 to 20000 hz. There is no specific frequency setting for the Mid knob, however it is not a static frequency either. The wider the frequency splits are set, the more quality is added to, or subtracted from the Mid Boost (Q). So, the frequency that it boosts or cuts is a frequency in-between the Low and High frequency setting and is dependant on these values. All this provides for a very versatile EQ with a minimum of parameter adjustment.



Elaborating on the EQ section, the kick is a driving force in a track. Depending on the genre of music, it can have a lazy attack, being wet 'n sloppy with a distinct resonant tone, or in contrast, can be nearly pitchless, with a focus on the beater's attack and almost clipped-sounding waveform. Every situation is different, and suitably, the EQ will differ as well. There is no formula applying EQ to a Kick Drum. It depends entirely on the mix. This is where KickLab XXL has a strong point to make, being able to finetune and blend your kick drum precisely into your mix.

The Saturator will add tape style saturation to your kick drum. This can be subtle or intense with or without limiting. The Saturator, just like the EQ section, applies to both the Virtual and Sampler section outputs mixed and sits just before the final Output fader.



A switch is supplied to turn the EQ or Saturator sections on or off. Turn each section to "off" when not in use to reduce CPU overhead and any internal clipping.

Phase Invert

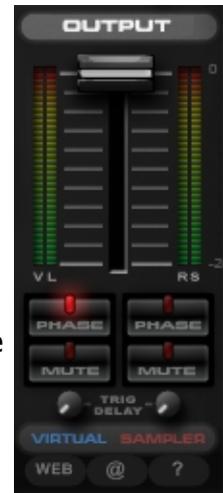
The Phase Invert buttons are a very important feature in KickLab XXL and a trick often utilised by engineers. When cancellation of sub frequencies occur, you can switch the phase and it will get rid of the cancellation. In some situations the kick drum can interfere with bass (guitar) frequencies in your mix and the phase invert of one (or both) sound sources might help there as well. There is no right or wrong setting for the phase buttons. Just try different combinations until you find one that sounds the best.

The Mute buttons will mute the Virtual or Sample section separately so you can concentrate on the sound creation of each section before summing the two sound sources together.

Mixer Section continued

The "Trig Delay" knobs will delay the Virtual or Sample section from triggering by a certain value. For instance, if you have a Virtual Kick drum sound with a lot of attack, the sample might need adjustment by starting a couple of samples later. Or, as mentioned earlier, to line up reversed samples or loops. You can delay each channel up to 2000 samples. A value of Zero (0) delay on these knobs is set when they are turned to the far left.

Multichannel out is another strong feature as you might want to use the Virtual and Sample signal split into your host sequencer mixer to enable further processing to each of these sections independently with your own VST plugins. KickLab XXL will always place 3 stereo channels on your mixer, however Kicklab's output will be routed to either the Main Out, or Virtual out (2 x mono) + Sampler out (2 x Mono or 1 x Stereo depending on the sampler settings). This setting can be found in the Program Window. Click on "Multi Channel" to select either "Main Out" or "Split S+V" (Split Sampler plus Virtual) from the dropdown box. The default is Main Out, with both the Sampler and Virtual sections mixed together onto this single mixer fader. Another use of this split mode is to use just the Sample output as the Kick for your track and the Virtual Out sound purely as a silent sound feed to a sidechain compressor in your DAW session. This can save you having to make separate kick tracks to run sidechain compression in your song.

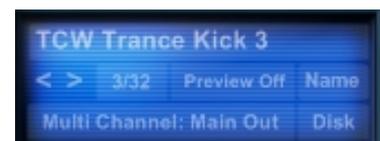


Level metering is provided for all channels. The meters closest to the fader are the main output level meters. The furthest from the fader are the Virtual and Sampler output metering. The metering for the Virtual and Sampler channels is done just after the volume knobs of each section, so it shows what levels you feed into the EQ and Saturator sections.

The main fader is to control the main output level. When turned down the Virtual and Sampler meters will still show the levels of these sections. Give yourself plenty of headroom with this fader to produce a kick with the most punch and least amount of clipping...ie..louder is not always better. Keep the meters out of the red and turn up the fader in your DAW mixer channel, or amplifier output if you require further level.

Preset Manager and Disk Operation

The preset manager is straight forward. You can load and save presets or preset banks and rename them if necessary by clicking on "Disk".



It has a previous and next button to scroll thru presets and shows you the preset name and what preset number you are on. Presets can also be selected by a drop down menu by clicking on the preset name.

Authorisation and Legal

Along with your download we provide a serial key and user key file (user.key and serial.key). KickLab will not output any sound without those files. These files must be dropped in the installation folder of KickLab XXL. This will authorise your copy of the plugin on startup without further annoyances.

If you lose your keyfiles due to HDD or system failure we will send you new key files ASAP (surely within 24 hours) just send us your Customer ID and date of purchase. Please store your keyfile along with your serial number in a safe place to keep resending of serial and user keyfiles to a minimum.

You can use the plugin on 2 systems, provided that you own them both (like laptop and main DAW) and is only used by you personally. For studios we handle different prices, Please contact us for details if you want to use KickLab XXL in a "public" studio environment. Resale of this plugin is not permitted. Free updates provided only for bugs in v1, upgrade prices apply for version 2. We will always keep support on any version.

If AMvst would ever cease to exist, we will provide you a copy protection free version.

KickLab XXL can be used to create sample libraries, with (well almost) no restrictions, but please do not use the provided presets in such, we assume you can certainly do better.

Troubleshooting

1:/ "I load up my preset but the sample is not loading".

Samples are not saved along with the presets, only pointers to their position on the disk. If you move or rename your kick samples then your presets may not load properly. Either position your sample back to its place when the preset was made on the disk or re-load the sample again with the sample browser from its new location.

2:/ "My kicks sound distorted"

Turn down the Volume knobs in both the Virtual and Sampler sections, turn down the EQ levels, turn down the resonance values in the filters, turn off the distortion or Saturate sections, reduce the Impact or Punch knob values, turn down the Main Output Fader, turn down the level of the channel output in your DAW mixer. Turn the Virtual Kick wave selection from TRI to SIN. Use an undistorted sample.

3:/ "How do i make my kicks have a pre-delay when the Trig Delay knob cannot have a negative delay setting, only a positive value?"

The Trig Delay knobs are only able to delay Kick sounds forward in time. Kicklab XXL cannot play a midi note before it receives it. If your overall Kick sound is late in your track then you wish to move the Kick back earlier in time. Set your DAW's midi track timing to a negative value.

4:/ "The kick sounds different/shorter when played in my DAW from midi compared to when i use the "Preview=On" setting."

Kicklab XXL will play a short Kick if it is sent a short midi note from your DAW (and so it should!). However in "Preview=On" mode, when you release the cursor on a knob it will trigger a kick sound to assist in Kick creation when your sequencer is in Stop mode. However when you release the cursor on a knob in this setting it has to guess what kind of Kick length to play as it is not receiving Midi notes at the time. So Kicklab XXL instead uses the "Decay" values on the Decay knobs for length. If these are set to a different length to the Midi note length in your sequencer then you may notice a different-length Kick being previewed. If this becomes a problem then you may wish to lengthen your Midi notes in your sequencer to compensate, or alternatively design your kick sound whilst your sequencer is triggering the Kicklab via midi in a loop.

Troubleshooting continued

5:/ "I can hear a pop at the end of every kick"

This is most probably due to you setting an Endpoint for the Kick Sample that is shorter than the Decay setting in the Sample section. Muting the sampler section to see if the problem is gone, then you know for sure it is the sampler sections end trim and/or decay settings. You can try re-positioning the Endpoint to a central point on the waveform that will reduce the click or reduce the Decay knob so that the envelope assists in reducing the pop.

6:/ "My Sample kick does not sound the same as it does in my editor".

You may have a stereo sample that you are playing in Mono. This can cause cancellation of several frequencies. Click on the Mono setting in the Sample window and select "Stereo". You may also have the Key setting to "Key = On". This can cause the sample to play back at different speeds depending on the Midi note. To keep the Kick sample pitch consistent regardless of the Midi note set the Key setting to "Key=off". Also ensure that the Pitch knob in the sample window is set to "0.00". Check the filter settings, and the envelope settings in the red (Sampler) section.

7:/ "I am having a problem this manual does not cover".

We are doing all we can to provide you with a quality product, if you have any problems that can't be solved by this manual, feel free to contact us.

That's it!

We hope you enjoy KickLab XXL and that it will be part of your musical creations for many years to come.

This concludes this manual, and as we value you as a customer, if you have any questions, problems or suggestions regarding this manual, us, our website or the KickLab XXL plugin, feel free to contact us directly by clicking the "@" button on the KickLab GUI or thru the contact page on <http://amvst.com>

A special thanks to these wonderful people for their insight!

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