

The Virus TI Setup Guide

A basic guide on how to connect your Virus TI with a software sequencer. Includes loads of additional background information and troubleshooting tips.



Welcome

This tutorial is a loose collection of tips, tricks and background information. It is also intended to supply the necessary digest for those who don't like to dig through extensive manuals.

Why is a certain setup necessary at all? Actually, for the Virus TI itself, it isn't. What do need to be tuned, however, are your sequencer and your computer; this will ensure you get the best out of "Total Integration" - the connection between your Virus TI and your sequencer.

So here's what to expect over the next couple of pages:

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Connecting your Virus TI to a PC or Mac

To use a hub or not?

In general, we recommend you avoid using a USB hub between your computer and the Virus. With newer motherboard designs, however, the situation becomes a little bit more complicated. Some designs feature integrated USB hubs right on the motherboard, thereby removing the option of running the Virus TI without a USB hub unless you invest in a third party USB card. In many cases, however, this is not necessary and your Virus will happily work alongside other USB devices on one root hub.

- ✓ *Prominent examples of such a design are modern Intel processors motherboards, such as those found in many Intel i5/i7 driven Macs and PCs.*

Here are a few golden rules to guide you on your path toward the attainment of system perfection:

- ▶ If you have to use a hub, only use a quality USB2 compatible hub supporting high speed transfers. We had good results with, for instance, Belkin USB 2.0 hubs.
 - ▶ Do not use devices generating loads of USB traffic, such as USB hard drives on the same hub or root with a Virus TI. Less demanding devices, such as mice and keyboards, are usually fine. Webcams and Bluetooth receivers are fine as long as they are not switched on.
 - ▶ Do not use a hub to extend the maximum cable length of 3 meters. Most active cable extenders contain hub chips and some of those are known to be incompatible with the Virus TI.
- ✓ *Additional information on how to examine the USB layout of your computer can be found in the [Finding the “right” USB port](#) paragraph.*

About bandwidth

Even though the Virus TI's bandwidth requirements are moderate for a modern computer, there is a crucial difference to many other USB devices: the need to perform tasks in real time. "Real time" means that, in difference to a hard drive for instance, the Virus TI produces a constant stream of audio data which must not be interrupted. If the data comes in late, or is partially lost, audible artifacts such as crackling or popping might occur. Key components to enable the data to travel fast and safe include a dedicated USB connection and, in some cases, disabled power saving features on the computer side.

Notes for Mac users

Pretty much all up-to-date Apple computers share USB ports available from the outside with internal components such as Bluetooth receivers, keyboards, trackpads, and built-in webcams. These devices have proven to work fine with the Virus TI and the warning that flags up when starting the Virus Control plug-in can be ignored. If you can, you should find a USB port available exclusively to the Virus TI.

Notes for PC users

The perfect recipe for trouble would be: an onboard USB connection with a bad driver combined with a rather slow motherboard, not enough RAM, loads and loads of USB devices on the same motherboard and of course far too many applications installed.

If you want your computer to be fast - keep it lean! Buy a dedicated USB2 card and connect only the Virus TI to it. In case you need more USB connections, use another card, or at least add those step-by-step and watch how the operating system behaves.

Try to select an energy profile that is dedicated for media usage. Settings designed for saving energy or laptop batteries can cause problems.

Installing the software

Choose a USB port for the Virus TI

Firstly, to all PC users: do not connect the Virus TI just now - read on, before you do so! Depending on your USB peripherals used by your computer, a little research on which port the Virus TI connects to best can save you loads of headaches later. Ideally, you should choose a free port which is not shared with any other components. If that's not an option, choose a port which shares a root hub with *one* other device. This device should not consume much bandwidth.

- ✓ *Here is some background info on high speed hubs and full speed USB devices: high speed hubs, also known as "USB2 hubs", distribute USB signals to all connected devices. When communicating with a slower device, also known as full speed devices or "USB1 devices", the hubs slow down the data rate by a so called "transaction translator". Just think of it as a truck lane where the slower trucks are supposed to drive on a highway. In case the USB2 hub features only one truck lane, it will be used for all USB1 devices connected. As a result, all USB1 devices connected share this one truck lane, or, in other words, share the bandwidth that one USB1 device would normally have to itself. As a result, if you use a USB2 hub, the Virus TI should be the only USB1 device connected to this hub. This way the Virus TI will get the bandwidth it needs to operate without problems. Connecting more USB2 devices is fine.*

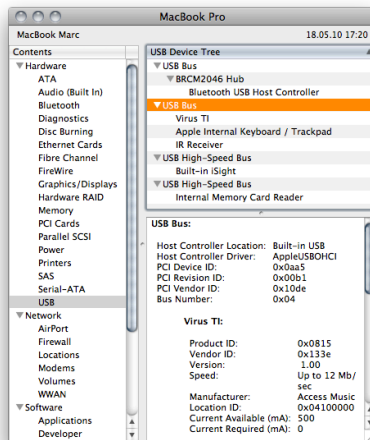
Again, for PC users: do not connect the Virus TI now. This software installer will ask you to connect the Virus TI when appropriate.

Choosing the "right" USB port

The goal when choosing the port is to find one which doesn't share its resources with another port - only this way, can you be guaranteed to get 100% of the bandwidth.

For Mac Users

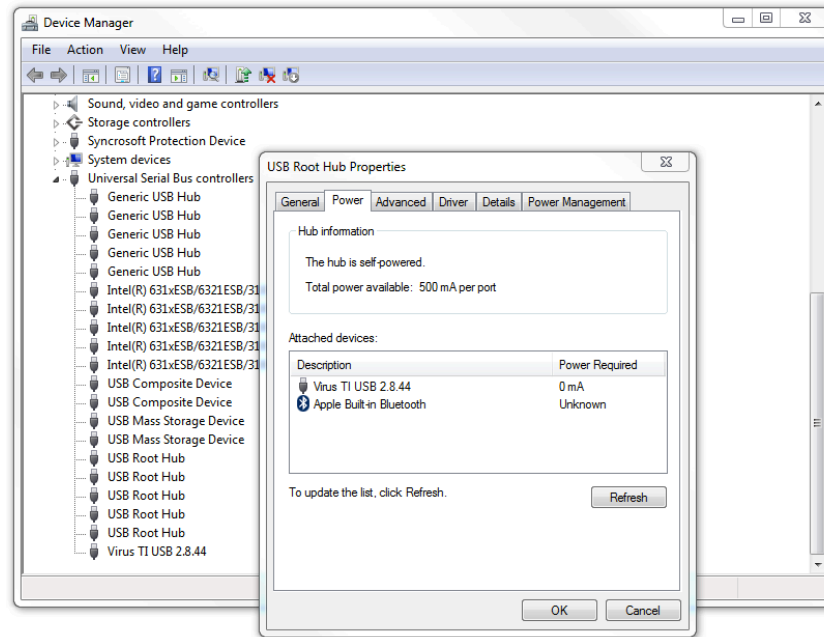
System Profiler is the tool of choice to take a closer look at the USB topology of your Mac. To open the application, choose “About this mac” in the Apple menu and click on “More Info”. Then choose USB on the left. Assuming that your Virus TI is connected and switched on, your USB device tree might look similar to here:



As you can see, my Virus TI shares a USB port with two other slow devices. In this case, this doesn't result in a problem since there is still enough bandwidth left for the Virus' communication.

For Windows Users

Windows, unfortunately, doesn't supply you with a graphical viewer showing the entire USB tree. The device manager though, shows you which devices are attached to a hub (which can be an external or internal hub). Below you can see how it looks like on a Mac running Windows. Both the Virus TI and the built-in bluetooth receiver are connected to the same internal hub.



As you might have already realized, we find ourselves in a “chicken and egg” type of situation. How can we check which port is best on a PC when we’re not allowed to plug-in the Virus TI unless the installer requests us to do so? The easiest way is to examine all available root hubs using the device manager. If one is not occupied with devices at all, it should be considered to be a good contender. If you’re uncertain which root hub is connected to which USB port on your PC, you can always use a USB stick to identify a port. Don’t forget to hit “refresh” in the root hub properties after connecting a USB stick.

Installing the Virus TI software suite

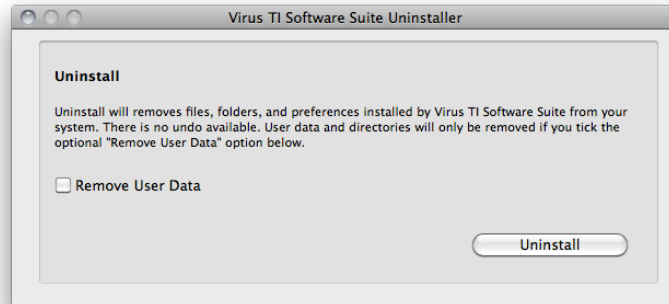
The Virus TI software suite installer doesn't need much explanation; nevertheless here are a couple of guidelines:

- ▶ PC users can choose the path to where they want the VST plug-ins to be installed. Make sure that you verify the path, otherwise the sequencer might not see Virus Control (the plug-in for the Virus TI) or the sequencer will see the wrong version, resulting in a version conflict.
- ▶ Do not move components around manually after installation. The Virus TI software suite relies on finding certain parts in certain places. Moving these around might render your installation faulty.
- ▶ The installer also updates the Virus TI hardware if necessary. If the installer claims to see no Virus TI, even though you have connected it: remove all cords from your Virus TI, wait for 30 seconds and plug them all in again. By "all cords" we mean: the power cord, the audio cables and the USB cable.

De-installing the Virus TI software suite

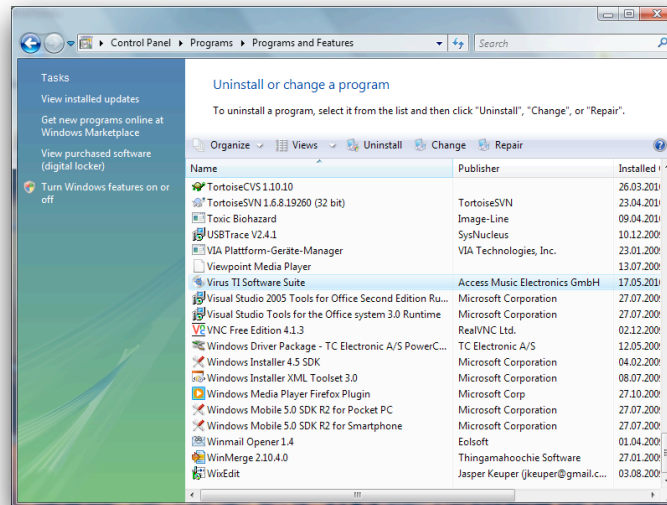
For Mac users

A de-installer application is provided within the Access Music folder in the Applications folder.



For Windows users

Windows Vista and Windows 7 provide an uninstaller application (Programs/Uninstall). Windows XP users need to go to the Windows Control Panel and launch "Add or Remove Software".



Setting up your sequencer the right way

The right audio preferences

Every sequencer features more audio settings and options than the most of us will ever need. Below is a digest of the most important settings. Nevertheless, we invite you to read through the sequencer related tutorials and learn setup tricks by opening the tutorial songs provided. Both can be easily accessed with the “?” button in Virus Control in the right lower corner.

All settings recommendations are intended for the software revisions we've tested against. Those were: Logic 9, Cubase 5, Live 8, Sonar 8, Protools 8 and FL Studio 9. Older software revisions might have required different settings.

Apple Logic Pro

Most settings which need to be adjusted can be found in the audio device and general preference tab. Here are the most important ones:

- ▶ **I/O Buffer Size** needs to be in the range of 64 - 512 samples. 64 samples might result in audible artifacts with older Macs. We recommend 128 samples.
- ▶ **Process Buffer** range needs to be set to “Small”.
- ▶ **Plug-In latency compensation** must not be set to “Off”.
- ▶ **Low Latency Mode** should be disabled.

Ableton Live

Most settings which need to be adjusted can be found in the audio preference tab. Here are the most important ones:

- ▶ **(Mac OS) Audio settings > Buffer Size** needs to be either 64 (Mac only), 128, 256 or 512. Odd values will result in problems. We recommend 128 samples.
- ▶ **(Windows) Audio settings > ASIO Panel > Buffer size** must be one of the following: 128 (“rapid”), 128+safety buffer (“fast”), 256 (“normal”) or 512 (“relaxed normal”). We recommend 128 samples for modern PCs
- ▶ **(Windows) ASIO Panel > Application** priority should be set to “High”.
- ▶ **Options > Delay Compensation** needs to be enabled.
- ▶ **Preferences > CPU > Buffer Size** needs to be set to “As Audio Buffer”

Steinberg Cubase

Most settings which need to be adjusted can be found in the audio device setup. Here are the most important ones:

- ▶ **Device > Device setup > VST audio system > ASIO Panel > Buffer size** must be one of the following: 128 (“rapid”), 128+safety buffer (“fast”), 256 (“normal”) or 512 (“relaxed normal”). We recommend 128 samples for modern PCs
- ▶ **Device > Device setup > VST audio system > ASIO Panel > Application** priority should be set to “High”.

Avid Pro Tools LE

Most settings which need to be adjusted can be found in the Setup menus. Here are the most important ones:

Setup > Playback Engine should be set to nothing greater than a CPU usage of 85%

Setup > H/W Buffer Size must be in the range of 64 - 512 samples. We recommend 128 samples.

- ✓ *Note that Pro Tools LE does not automatically compensate the timing. You need to work with the Time Adjuster plug-ins in order to get a sample-accurate timing.*

Avid Pro Tools HD

Most settings which need to be adjusted can be found in the Setup menus. Here are the most important ones:

Setup > Playback Engine should be set to nothing greater than a CPU usage of 85%

Setup > H/W Buffer Size must be in the range of 64 - 512 samples. We recommend 128 samples.

Cakewalk Sonar

Most settings which need to be adjusted can be found in the Audio options menus. Here are the most important ones:

- ▶ **Audio Options > General > ASIO Panel > Buffer size** must be one of the following: 128 ("rapid"), 128+safety buffer ("fast"), 256 ("normal") or 512 ("relaxed normal"). We recommend 128 samples for modern PCs.
 - ▶ **Audio Options > General > Sampling rate** should be 44100 or 48000.
 - ▶ **Audio Options > Advance > Driver Mode** should be "ASIO"
 - ▶ **Audio Options > Advance > Synchronization** to "Trigger & Freewheel"
 - ▶ **Audio Options > Advance > Play Effect Tails after Stopping** must be enabled
 - ▶ **Audio Options > Advance > Record Latency Adjustment** to "Virus USB ASIO driver"
 - ▶ **Audio Options > Advance > Use ASIO Reported Latency** should be enabled
- ✓ *To bounce audio tracks, you need to disable "Fast Bounce" in the Export Audio dialog box.*

Imageline FL Studio

Most settings which need to be adjusted can be found in the options menus. Here are the most important ones:

- ▶ **Options > Audio Settings > ASIO Panel > Buffer size** must be one of the following: 128 (“rapid”), 128+safety buffer (“fast”), 256 (“normal”) or 512 (“relaxed normal”). We recommend 128 samples for modern PCs
 - ▶ **Options > Audio Settings > ASIO Panel > Application** priority should be set to “High”.
 - ▶ **VST Wrapper Settings > Processing > Process inactive inputs and outputs** needs to be enabled.
 - ▶ **VST Wrapper Settings > Processing > Notify about rendering mode** needs to be enabled.
 - ▶ **VST Wrapper Settings > Processing > Allow threaded processing** needs to be enabled.
 - ▶ **VST Wrapper Settings > Processing > Send loop position** needs to be enabled.
 - ▶ **VST Wrapper Settings > Processing > Use fixed size buffers** needs to be disabled.
 - ▶ **VST Wrapper Settings > Settings > MIDI > Input Port** needs to be set in order for the track to receive MIDI from the Virus keyboard (if applicable)
 - ▶ **Settings > ASIO Properties > Clock Source** should be Hardware (if applicable)
- ✓ *FL Studio only supports offline audio bouncing. The Virus TI requires realtime audio bouncing. You need to re-record the audio outputs of the Virus TI to capture the performance.*

Motu Digital Performer

Configure Hardware Drivers > Buffer size needs to be either 128, 256 or 512.

Configure Hardware Drivers > Host Buffer Multiplier needs to be set to “1”

Configure Hardware Drivers > Work Priority needs to be set to “High”

Configure Studio Settings > Automatic Plug-In latency compensation needs to be enabled.

- ✓ *Digital Perform only supports offline audio bouncing. The Virus TI requires realtime audio bouncing. You need to re-record the audio outputs of the Virus TI to capture the performance. Note that Motu Digital Performer is not an officially supported host.*

When loading up a project

Aside from the obvious, there is one thing you need to take into consideration when loading a project that contains a Virus TI: wait until the project has fully been loaded. Virus Control shows a progress bar when recalling all project related settings. The Virus will show a message stating “Configuring Virus Control”. If in question, open Virus Control and check if the Virus TI is ready to play. Once that bar is gone, and you’re presented with the usual menus and pages, it’s safe to playback the project.

Switch on your Virus TI before you launch the sequencer

With many hosts, the Virus TI needs to be switched on before you start your Sequencer application; otherwise, the MIDI ports will not be available. If you decide to put your Virus TI into standby while the sequencer is running, we recommend that you reboot the sequencer after switching on the Virus again.

Working with the Virus TI

Virus Control is a “multi-channel instrument”. What does this mean?

Virus Control controls all 16 parts of the Virus TI with one interface. The benefits include easy copying between parts and the most flexible audio routing (you can choose the output per MIDI part and rethink your decision at any time). As well as this, the part bar on the left becomes a mixer for all Virus parts using only a tiny amount of space.

- ✓ *Only one instance of Virus Control needs to be opened per Virus TI connected.*

How to get the best recording performance

Timing is crucial when it comes to recording your performance. The Virus TI features many invisible mechanisms, ensuring that you automatically get the smallest possible latency when recording or playing the Virus on a keyboard. Nevertheless, there are situations where you can reduce the latency by adjusting the following options:

Direct monitoring mode

Direct monitoring can be enabled by clicking on the “D” button in the part bar on the left in Virus Control. This mode switches any part to the analogue outputs and ensures that the sound travels directly from the sound engine to those, bypassing the sequencer. This mode undoubtedly results in the smallest possible latency and feels the most snappy while recording a performance, but there is a major disadvantage to it: every note coming from the sequencer on this part will be played back too early by roughly 1/16 note (@120 bpm). Especially when you overdub, it is not advisable to use direct monitoring.

Live button

Live mode can be engaged by clicking on the “Live button” on the lower left corner of Virus Control. This mode is intended to be used with the sequencers Ableton Live and Cakewalk Sonar only. Sonar forces you to enable live mode while recording, otherwise you will face an unpleasant delay between playing a note and hearing it. Ableton Live doesn’t introduce an audible delay, but instead moves every note automatically after recording. The amount is determined by the so-called “latency” every plug-in reports. In this case though, the result is somewhat counterproductive.

- ✓ *Live mode is not intended to cure faulty setups. If you feel a latency in sequencers such as Cubase, Logic and others, try to reduce it by changing the buffer size of the sequencer. Alternatively, use Direct Monitoring.*

How to get the best playback performance

Most modern sequencers automatically adjust the timing of all instantiated virtual instruments to ensure they play at the same time. The biggest exclusion, at the point of writing, is Avid Pro Tools LE which only allows for manual compensation. All other supported sequencers take care of the timing automatically. So what needs to be done if the Virus is suddenly playing early or late, whereas before it was totally fine? Simply stop the sequencer and wait for a couple of seconds. Virus Control will automatically re-calibrate itself and should be back on track.

Space at the beginning of the song

Inserting one or two empty bars at the beginning of the song helps the Virus T1 to settle into the tempo. This is not a requirement in every sequencer but, as a general rule, it is advisable.

Configure your sequencer and plug-in for multi-output use

In order to process discreet parts (or sounds in this case) with additional audio plug-ins right inside the sequencer's mixer, you need to instantiate Virus Control as a multi-channel audio instrument and create up to 3 stereo auxiliary channels. Use these channels to play out stems or individual sounds for post-processing.

Virus Control offers you 3 different output configurations. In order to make everything work as expected, you need to select the mode before you move on:

- ▶ **2 Outputs / No Input:** This mode offers two stereo outputs (one main output and one auxiliary output). Also, the Virus doubles as a stereo input/output soundcard.
- ▶ **3 Outputs / No Input:** This mode offers three stereo outputs (one main output and two auxiliary outputs). The Virus will only partially work as a soundcard - the outputs are working, but recording sound from the analogue inputs of the Virus TI hardware is disabled.
- ▶ **3 Outputs / 1 Input:** This mode offers three stereo outputs (one main output and two auxiliary outputs) and enables side-chaining audio into the plug-in. The Virus TI's ability to double as a soundcard is completely disabled.

Also see [Audio Side Chaining](#).

Mono auxiliaries instead of stereo channels

To get even more discreet channels out of the Virus TI, you could split the stereo auxiliary channels into two mono signals. This procedure differs from sequencer to sequencer - in this example, using Logic Pro, we will split the main output of the Virus TI into two mono channels:

- ▶ Select the virtual instrument used for the Virus TI in Logic's mixer and set the output to a free auxiliary channel.
- ▶ Create another auxiliary channel strip with the same number

- ▶ Now long click on the stereo symbol underneath the meter of the auxiliary channel strips and change from “stereo” to either “left” or “right”
- ▶ Hard pan every part in the Virus you want on channel 1 to the left, and on channel 2 to the right.

Bouncing audio to disc

“Bouncing audio to disc” means capturing the output of the Virus TI and writing it to an audio file on the hard drive. There are various ways to do this, and you might need to consult your sequencer’s user manual for more detailed information. Nevertheless, there is one common denominator:

- ✓ *Only real time bouncing will work with the Virus TI. Logic, Pro Tools and Cubase users can choose the right settings straight away from the bounce dialogue window. Ableton Live, FL Studio, Sonar and Digital Performer users need to re-record the Virus. Details on how to do that can be found in the respective tutorials.*

Users of hosts which do not feature realtime bouncing need to find an alternative way, such as re-recording the TI’s output to an audio track.

Audio Side-chaining

“Side-chaining” means to feed audio from one device into another, bypassing the actual audio inputs. For us, it means that you can send audio from your sequencer into Virus Control (and therefore the Virus hardware), mangle with it, and then send it back.

In order to use side-chaining, you need to enable the “3 Outputs / 1 Input” mode in Virus Control's settings first. Please note that once this mode is enabled, the Virus cannot double as a soundcard anymore. Also, please note that, at the time of writing, the side-chaining implementation of some sequencers is either non-existent or faulty. Steinberg Cubase for instance does not support it at all for virtual instruments and, at the time of writing, Apple Logic has an issue which results in a delayed audio signal at the side-chain input.

About automation

The Virus TI allows you to automate every feasible parameter of the sound engine. The parameters which cannot be automated are those which would create an audible artifact were you to change them whilst you play a note. Amongst these are, for instance, oscillator types which switch algorithms within the sound engine.

Either all parameters are automatically “enabled” for automation, or you need to enable a parameter manually by right-clicking on it in Virus Control and choosing the option to add it from the contextual menu. Whenever possible we've used the automatic mode which saves you the step of enabling a parameter for automation.

- ✓ *Pro Tools users need to use the automation button found in the status bar of the plug-in to add parameters to Pro Tools' automation.*

Troubleshooting

Voice-stealing

So, how many voices or notes can you expect from the Virus TI at a time? The answer is that since the Virus TI sound engine is highly dynamic, the voice count can vary dramatically from one sound to the next, depending on which features are being used. In other words, switching on every possible feature might not get you as far as you like.

To help give you a rough idea of how many voices you can expect to achieve with your chosen patch, we have provided a patch complexity meter in the top right hand side of the display. This patch complexity meter does not indicate how many voices are left to use - it is designed to show you how *expensive* a patch is. Ideally, it will give you an idea of which sounds to go for when you are browsing - not when it is too late.

The Virus TI has several features which are considerably more demanding of the available resources than others, and this can become apparent when using multiple parts at the same time. If you find you are running out of voices too quickly, you could take a closer look at the patches you are using, and see if they can be optimized in any way. The following features should be considered prime suspects in this situation:

- ▶ **Unison Mode** divides the voice count by the chosen value.
- ▶ **Reverb** this is the second most 'expensive' of all the effects, especially if used on more than one part, so it can be advisable to try to avoid using it on more than one part at a time. A delay will have far less impact on resources, and often be just as effective – alternatively, don't forget you can use external plug-in effects if you are using Total Integration.
- ▶ **Long Amplifier Release Times** can result in a significantly reduced polyphony count although you barely hear the difference or get any kind of audible benefit.
- ▶ **Analog 1-4 pole lowpass filter** reduces polyphony by 50%

- ▶ **WavePWM or Grain/Formant Complex Oscillator** reduce polyphony by 50%
- ▶ **Oscillator 3** reduces polyphony by 25%

More details on polyphony and voice-stealing can be found in the Virus TI Quick Start manual.

- ✓ *Part Priority recently debuted in Virus Control and can be found by right-clicking on the “D” button on the left side where all the parts are listed. Part Priority tells the Virus to put a certain amount of emphasis on a part. It works well on, for example, long bass sounds which otherwise would be cut off in a dense arrangement. Even though you can switch on Part Priority for all parts at the same time, it is really designed to put emphasis on no more than two parts at the same time.*

Buffer size versus bandwidth demands

The buffer size setting, which can be found in all DAWs, defines how much information is collected before being sent off to the Virus TI in one big “block”, sometimes referred to as a “chunk”. This block-processing is how most modern audio workstations work. The counterpart to the buffer size, which describes the size of this block, is the system’s performance. The better the performance, the lower the buffer size that can be chosen without running into issues. The reason behind this, is that the sending of data is considered to be a fairly big effort for the operating system. The actual size of the data package doesn’t matter in this case, and larger sized packages of data need to be transferred less frequently in order to get the same amount of information over to the other side. So, we can see from this that the smaller the blocks become, the more frequently they need to be sent off.

What you need to find is the right trade-off between snappiness (equals small buffer sizes) and reliability (the maximum performance your system can provide). In general, anything between 64 samples and 512 samples is recommended. 1024 samples buffer size and higher are not supported. If you use a host which allows you to choose odd buffer sizes, make sure to choose one of the following: 64, 128, 256, 512.

Sync Errors

Virus Control can show you potential synchronization problems by changing the color of the info bar at the bottom to red. A “sync error” means that more than one USB package (the data the Virus transmits via the USB cable) did not make it in time or got lost entirely. The result can be everything from drifting arpeggiators, pops and crackles to note hangs. Imagine that the information stating that you released a key on the keyboard gets lost - the note in question will play forever.

Sync errors are mostly caused by driver problems, damaged hardware (including the USB cable), device conflicts or a total overload of your computer. Your best chance of solving these problems is a clean system installation and using a USB port which doesn't share its bandwidth with other ports. Also, updating the device drivers for your USB card, if applicable, might help.

It is an urban myth that the USB transfer speed influences the accuracy of the sync in the case of the Virus TI. The USB driver we use cannot adjust the amount of data it sends. It either gets the data through in time or not. If the USB connection doesn't fulfill the requirements of the driver, you should find a way to improve the situation or you will likely run into synchronization problems.

- ✓ *Another good indicator for transmission problems is the tempo LED, located close to the display section. If the tempo LED doesn't show a steady pulse but flickers, this indicates that the Virus TI is receiving damaged timing information. The tempo LED might show a slight negative offset to the actual beat for technical reasons.*

My Virus sounds less loud than other virtual instruments. What do I need to do?

Using the USB outputs, you will recognize that other virtual instruments have more output level than the Virus TI. This is because the Virus reserves enough headroom to play dozens of voices at the same time. Fortunately this needn't be a disadvantage as long as you make sure that you use the headroom of your digital mixer. Today's digital mixers and sequencers have more headroom than any of us will need. Here's an idea for you:

Before you start working on your next project, put every channel fader to -20dB. Next, put the master fader right up so you can still hear things loudly enough. Once you instantiate Virus Control, put this fader to e.g. -12dB instead of -20dB to make it equally loud. Here, you need to experiment a little - the Virus obviously gets louder the more voices you play, and also all virtual instruments have a different loudness to each other.

After working on the song for a while, you will notice that your mix gets louder when you add more instruments. Reduce the level of the master fader once it gets close to red.

You will be surprised how powerful, clear and dynamic your mix will sound and how well the Virus fits in.

- ✓ *If you cannot achieve a suitable level by pushing the master fader right up when you start working, use a gainer plug-in to push it further.*

My Virus is behaving strangely! What do I do now?

Every computer, mobile telephone and synthesizer with digital components inside can run into a software issue. It's a fact of life, as unfortunate as it is. The Virus TI hosts multiple processors and I/O components which all, in theory, can run into a problem due to a software glitch, a static surge, hardware issue or other things.

Therefore, it is important to understand that in a worse case scenario like a crash, not necessarily "all lights go off" - the result can be much more subtle. It could mean that USB communication cannot be established anymore, or only a fraction of the parts in multimode play sounds. In other cases, the symptoms may include note hangs or severe latency.

- ✓ *One good indicator for a software issue is the user interface becoming unresponsive or sluggish. Another indicator for a problem with the sound engine is the LFO LEDs or parts of the LFO LEDs stop pulsing. A word of caution: there are sounds which set the LFO to a very low frequency and that looks like they stopped pulsing. Also, if you choose to let those LEDs show something different, no pulsing might indicate something different. The flashing Access Logo (only available on the*

keyboard versions) can be an indicator for a problem as well. If it stops pulsing to the beat, there might be a problem.

Fortunately, it can be cured easily by resetting the Virus. First, shut down your sequencer application. Next remove all cables including the power cable from your Virus and wait for 20 seconds. Then plug-in the power cable again while holding the *ARP EDIT* key. This will trigger a reset. Last, plug-in all the other cables again and fire up your sequencer.

If your Virus crashes on a frequent basis, please contact Access support by [Email](#) and let them help you find the reason and suggest a solution to your issue.

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