

Dàn Tranh

Virtual Instrument Product Manual
Versilian Studios - 2013

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Maize Engine/Sampler by Xiang Cao/Maizesoft

Introduction

The **Dan Tranh** is a traditional zither originating from Vietnam. It is considerably longer than its European and American cousins, and is also tuned as a pentatonic instrument. 16-17 metal strings run the length of the instrument with bridges halfway for each string. In traditional performance on this instrument, one hand plucks the strings on one side of these bridges using plectrums (finger-picks) and the other hand bends the pitches of the notes as desired on the other side of the bridges. This allows an incredibly dynamic and unique performance which is very hard to sample and allow replication of. This manual will explain the actual instrument, as well as the functions of the Dan Tranh ROMpler VST plugin you have purchased.



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Design Points of the Virtual Instrument

The guiding principle we tried to follow while making this instrument was a careful balance between playability and realism. While we tried hard to cater to the modern composer, we also had serious technical considerations we wanted to make clear about the instrument, not just create a pad of unrealistic sounds. Because of this, we decided early on to sample the instrument as intended- recording the pentatonic scales the instrument traditionally plays. We also wanted to make sure that the instrument was playable and had a wide range of dynamic power and use, so we decided on four velocity layers and 2x Round Robin.

Recording Procedure

As this was a limited production and as many plucked string instruments are recorded as such, Camoshark opted to record it in mono. He used an average basic studio microphone placed under the instrument to pick up on the vibrations. Due to the design of the zither family, noises such as the inception of the pluck are actually carried through the body of the instrument, so it is not necessary to mic a zither from above.





All samples are at 44,100 Hz and 24-bit. Aside from normalization of the peaks to make every note sound about even at the same velocity, the samples were not altered in any way from the original state. We also included any slight faults or very slight color in tuning in order to provide the extra realism that provides as extra RR (so some notes actually have 3x or 4x RR).

Construction Technique

For the virtual instrument, our main inspiration was the instrument itself. We wanted the virtual instrument to heavily reflect its physical counterpart as much as possible, but to also be familiar and user-friendly. The knobs are derived from the actual tuning knobs on this particular instrument- they were recreated in 3D and rendered out using advanced shaders to approximate real lighting as the knob turned. In addition, to improve readability, a percent numeral and a circle pie bar was added to the tuning pin. Each knob has 50 individual position frames for smooth turning.

The backplate of the VST utilizes images of the instrument to further the aesthetics of the plugin. A color scheme of gold, brown, and red was agreed upon and carried out throughout the entire production.

Samples were carefully added one by one and balanced both across the note between layers and across layers between notes. Playing in the velocity layer will not have any hidden surprises in volume, and playing from quiet to loud across a single note gives a very smooth gradient.

What is Included

The .rar/.zip file you downloaded includes the following items:

- A copy of this Manual (.pdf)
- Two .dll VST plugins (1x 64-bit, 1x 32-bit; if Windows version)
- Two folders with a .instrument endings, corresponding to above
- One .component (audio unit) file (if Mac version)
- One .nki file (Kontakt 5 Plugin)
- One folder with the samples and art assets for Kontakt version.
- One .nkc and one .nkr file, also for Kontakt version.

This virtual instrument includes the following patches/modes:

- Standard Plucks (4 Velocity Layers, 2x RR)
- “Pizzicato”/Muted Plucks (2 Velocity Layers, 2x RR)
- Effects
 - Non-tuned strums, percussive effects, weirdness
- Glissandi/“slides” up/down (3 velocity layers, 2x RR)
- True/Sampled Vibrato (3 velocity layers, 2x RR)
- Tremolo (2x RR) (and release tails)

In addition, the entire instrument (aside from glissandi and FX) can be switched between the B Pentatonic scale and a chromatic extended scale that can be used to play other pentatonic scales (such as Bb or C) or non-standard scales. See the instructions on the UI for details.

Installation Instructions (Windows)

For new or revised VSTi including this product, there is a custom installer that will assist you with installing the product. Simply follow the instructions provided to you during installation process to extract the files to their destination.

Note: You will still need to manually set the file directory location when installing the VSTi plugin. If you do not know where to set your directory, set it to the default location of your preferred DAW.



Installation Instructions (Mac)

For Mac users, the installation process will require the manual placement of the Audio Unit or Kontakt instruments. Please follow the below instructions.

First, unzip the Marimba_Mac.zip file. Now select the Marimba_AU_v2.component file and press “cmd-c” or copy. In a finder window, browse to your OS hard drive (you can use the “Go” tab for this). In the hard drive, enter “Libraries”, then “Audio”, followed by “Plug-ins”, and then finally “Components”. Press “cmd-v” or paste to paste the .component file in the Components folder. A prompt will likely appear asking you to authorize this action. This is ordinary, as the library files are intentionally protected from accidental tampering. However, this is intentional. Enter required details and proceed.

The Audio Unit version will be copied into the Library. It may take a few minutes to finish copying and then to be recognized by the system. After that, it should be ready for use in any DAW or application which supports Audio Unit instruments.

The Kontakt edition will run from virtually anywhere you place it, as long as you move the entire Marimba folder with the two folders and two .nki files around together. The .nki (Kontakt Instrument patches) refer to content in the two folders through a relative path, so if they are NOT kept together, the patches will cease to function correctly and will require you to relink the samples every time you load up the patch.



Locate a place where you want to keep the Kontakt edition, perhaps near other Kontakt patches. Copy and paste the Kontakt Marimba folder to that location. To load the patch, simply open an instance of Kontakt, either standalone or within a DAW, then drag the .nki that corresponds to your version of Kontakt into the main patch window in Kontakt (or use the supplied “Files” browser in Kontakt to locate the .nki files and double click the correct one). You’re all set!

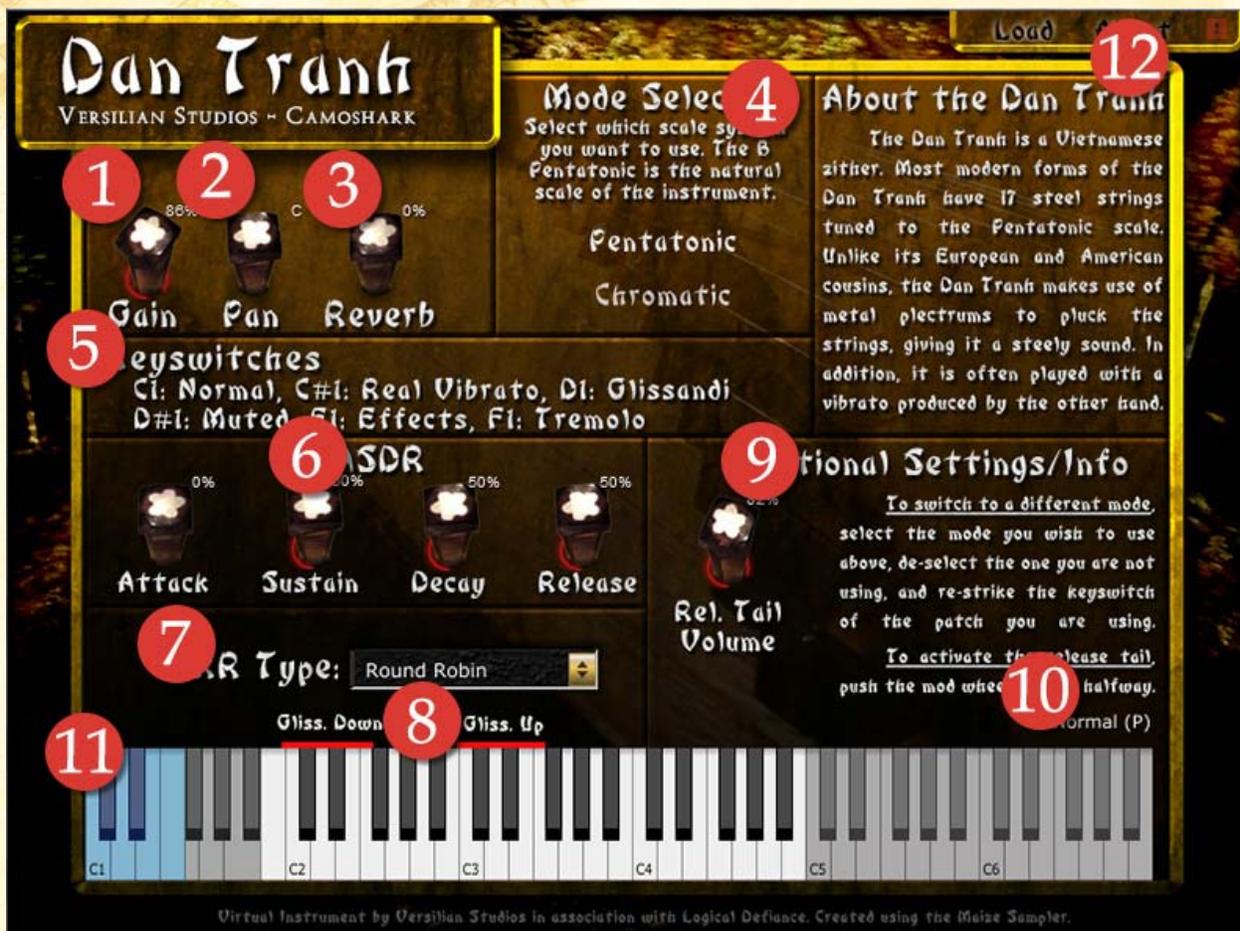
Uninstallation

Uninstalling the VS Marimba only requires that you delete all of the installed files that you placed or had placed during the automatic installer process. For Windows users, this means the .dll file and .instruments folder per 32-bit and 64-bit versions, as well as the Marimba Kontakt folder and its contents. For Mac users, this means the .component file in your library and the Marimba Kontakt folder and its contents.

Interface and Basic Functions (VSTi/AU)

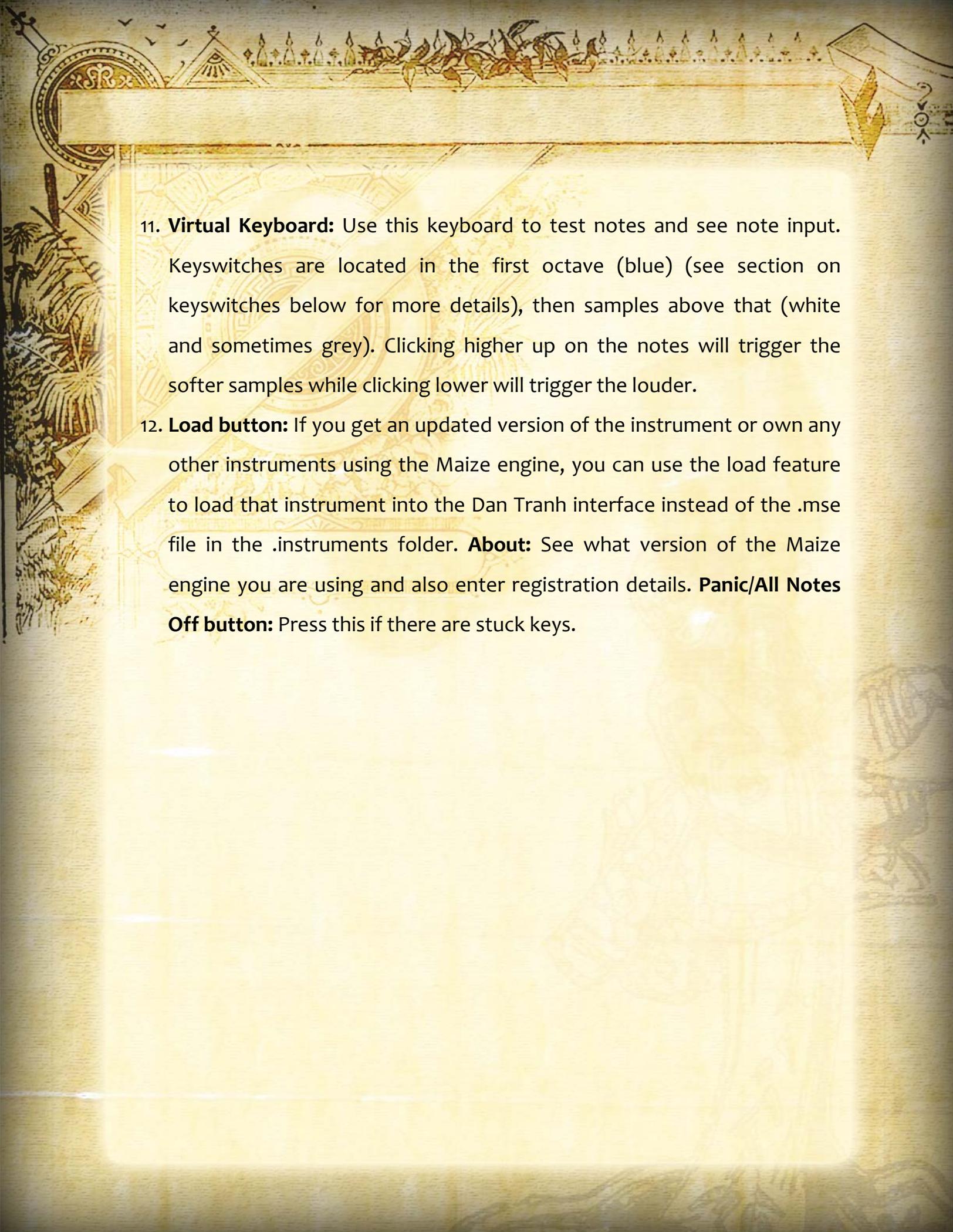
The provided ROMpler is a single-instrument, single-channel plugin designed specifically for the Dan Tranh virtual instrument. Because of this freedom, it is tailored to be both graphically detailed and as functional as possible.

Below is an illustration of the interface. Each numbered point is explained in detail as follows:



1. **Gain:** The gain knob allows you to adjust the overall volume of the instrument.

2. **Pan:** Pan adjusts the overall pan of the instrument, Left and Right. The numerical range provided is from 50L for completely to the left to 50R for completely to the right.
3. **Reverb:** A very basic built-in reverb function allows you to add reverb to the instrument if you don't have a reverb plugin.
4. **Mode Selector:** Select which mode (chromatic or pentatonic) you wish to use the instrument in. This can only be changed manually in the UI. Follow the instructions in the Additional Info box on the UI for help.
5. **Keyswitch List:** Shows what the standard keyswitches are for the instrument for easy reference.
6. **ASDR:** Allows you to alter the envelope of the samples as desired.
7. **RR Type:** Allows you to specify how the ROMpler should deal with multiple samples in the same space- Round Robin (1,2, 3, 4, repeat), Random Robin (1,3, 4, 2, random again), Total Random (1, 2, 2, 1, 1, 1, 3, 4, 3, 2, 2, 1, 3, etc.), and Stacked (play ALL the notes!).
8. **Gliss. Indicators:** Indicates the position of the glissandi on the keyboard.
9. **Additional Settings:** Includes a setting to change the level of the release trigger patches if they are in use, as well as important information.
10. **Patch Indicator:** The currently selected patch/articulation will be displayed here in real time to indicate what you are currently playing. A (P) will appear next to the patch if you are using the Pentatonic, and a (C) if you are using the chromatic. Enabling the release trigger will add another name with P or C after the patch loaded.

- 
- 11. Virtual Keyboard:** Use this keyboard to test notes and see note input. Keyswitches are located in the first octave (blue) (see section on keyswitches below for more details), then samples above that (white and sometimes grey). Clicking higher up on the notes will trigger the softer samples while clicking lower will trigger the louder.
 - 12. Load button:** If you get an updated version of the instrument or own any other instruments using the Maize engine, you can use the load feature to load that instrument into the Dan Tranh interface instead of the .mse file in the .instruments folder. **About:** See what version of the Maize engine you are using and also enter registration details. **Panic/All Notes Off button:** Press this if there are stuck keys.

Interface and Basic Functions (Kontakt)

The UI is tailored to be both graphically detailed and as functional as possible.

Below is an illustration of the interface and a description of the components within it:



1. **Envelope** controls the envelope of the samples. Adjusting release and decay up will produce the natural decay of the instrument
2. **Reverb** uses an IR to create realistic concert hall reverb. Size adjusts the duration of the reverberation for fine space control.
3. A basic **3-part EQ** allows you to customize the tone and timbre of the instrument.
4. **Stereo Width** can increase the stereo field of the instrument making it feel more diffuse if needed.
5. **Release volume** sets how loud release tails on the Tremolo patch are.
6. **Scale selection** allows you to pick Chromatic or B Pentatonic tuning.
7. **Articulation** displays what articulation/keyswitch is currently active.

Player Features

Velocity Layers

Each mode has at least **two** velocity layers. The Pentatonic and Chromatic each have **four**- very quiet, moderate, loud, and very loud/harsh. Every single note is balanced to make sure the transitions between layers are even and smooth. In addition, movement between notes in the same velocity layer is very smooth, as each layer is normalized in volume.

Round Robin/Random Robin

Unlike many other libraries, we let you select how you want the engine to handle overlapping notes. You can choose between **Stack**, where all notes are sounded at once, **Round Robin**, where notes are triggered in a set sequence, **Random Robin**, where notes are triggered in a random sequence, and **Total Random**, where notes are triggered completely at random. This allows you to pick which pattern fits your style.

Extended Scales

The pentatonic patches (normal, muted, vibrato, and tremolo) provided are extended so that if you press a key not in the pentatonic scale, it will sound the closest note **before** that key. For example, if you wish to play the part entirely on white keys, you can play B as C, C# as D, D# as E or F, F# as G, and G# as A. This also lets you do faux tremolo if you don't want to use keyswitches or such, or just play around without having to worry about pressing the right keys. Note that for obvious reasons this does not extend to glissandi and effects.

Keyswitch Usage

For advanced users interested in using more than one patch in a song but not interested in having to load multiple instances of the virtual instrument, it is possible to use **keyswitches**, or trigger keys, to change which mode/patch you are playing on. Below is the order of the keyswitches.

Mode/Patch:	Keyswitch:
Normal (non vib.)	C1 (36)
Sampled Vibrato	C#1 (37)
Glissandi	D1 (38)
Muted (Pizz.)	D#1 (39)
Tremolo	E1 (40)
Effects	F1 (41)

For the VSTi and AU versions, also note that the **Mod Wheel** is used to enable an auxiliary pair of patches, the **release trigger patches**, which are designed to be used in conjunction with the Tremolo patch but can also be used in conjunction with the normal patch to create a measured tremolo if desired. Note that the release trigger patches are very light. **Push the modwheel to over half-way to enable release trigger patches.** You will know when it is enabled when an additional patch called “Tremolo RT (P)” or “Tremolo RT (C)” appears loaded. This is done automatically for you in the Kontakt version.

Idiomatic Writing & The Pentatonic Scale

If you want to get the idiomatic sound of the Dan Tranh, be sure to look up a few videos on youtube or other places of traditional Vietnamese music. Note that MODERN repertoire often utilizes both hands while playing, although in traditional music only the one hand plucks strings while the other completely manages the pitch. For this reason, I recommend having one hand on the left end of your keyboard that will access the pitch wheel and the keyswitches next to it together. If you plan on using the instrument a lot, consider marking the keyswitches using small stickynotes on your keys.

For a good sound, start with a pentatonic scale. The player can sometimes move between multiple pentatonic scales by bending the pitches as needed. We used the B Pentatonic scale to sample the instrument, and most patches are in that (you can transpose or use the chromatic patch to achieve other keys).

The way the instrument is played is very challenging to replicate digitally. One thing is obviously true- there's a lot of pitch work going on. One effect is to bend from the note on the scale below your "destination note" to the destination note. We've included some recorded vibrato and such to help you along, but using your pitch wheel is a surefire way to help bring the instrument to life. Note that the real instrument only pitchbends UP.

Here's a good video to get started with:

<https://www.youtube.com/watch?v=oNhgCUkoLEA>

Troubleshooting

Below are some possible issues and steps you can take to try to resolve them. If you cannot fix the issue following these steps, need additional assistance, or your issue is not below, feel free to send us an e-mail at Contact@versilstudios.net. We will reply as soon as possible to your request and help you through the fix. Follow each step below sequentially. If it is fixed before the end of the steps provided, do not continue with the steps.

Issue: My Host/DAW is not finding the plugin.

1. Make sure the plugin was the right version (64-bit/32-bit).
2. Ensure that the place where you put the plugin is a place where your host looks for plugins.
 - a. If you use a program that has separate areas for effects and instruments, make sure it is in the right place.
3. Try scanning for the plugin in the host or manually adding it if such a function exists.

Issue: I am getting a "Cannot find any instruments." Error.

1. Make sure you copied the .instruments **folder** (the folder itself with the .mse inside it) into your directory. It **must** be in the same directory as the .dll file.
2. Make sure the .instruments folder is the same version as the .dll file (64/32-bit).
3. Check to make sure there is a .mse file inside the .instruments folder and that it is the same version as the .dll file.

Issue: The knobs aren't turning as I move my controller knobs!

Unfortunately this is an issue with the engine itself and we have already requested that this functionality be added. Sorry!

Issue: I don't hear anything!

1. Make sure your speakers are on and your system's sound is functioning (try playing a song in Media Player/iTunes). Make sure the gain is up a bit.
2. Make sure your host has access to your sound system (try using another plugin or the 'test' function in your hosts' settings).
3. Try changing modes. Note that some modes don't cover the entire keyboard so you may not hear any sounds if you press certain keys.

Issue: These samples suck!

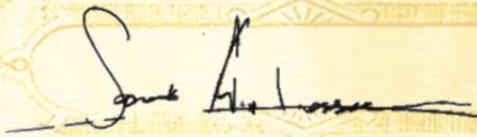
Sorry. We didn't promise you \$1,000 worth of samples recorded on state-of-the-art microphones in state-of-the-art facilities. We are common musicians with an interest in interesting instruments and we want to share that with the world.

Once again, for all other issues, feel free to contact us at contact@versilstudios.net.

Conclusion

We would like to thank you for purchasing our plugin and making it through this small manual. We hope you enjoy our hard work and write some awesome music. If you are interested in sharing what you made using our plugin(s) with us, drop us a line at contact@versilstudios.net. We absolutely love hearing people use our stuff!

Sincerely,



Samuel "Samulis" Gossner
Versilian Studios



Samuel "Camoshark" Hébert
Logical Defiance Productions

Credits & Special Thanks

Instrument played and recordings conducted by Samuel “Camoshark” Hébert.

Samples cut, normalized, instrument built, UI designed and constructed,
Manual written, and coffee brewed by Samuel “Samulis” Gossner.

First, a special thanks to our colleague *Émile Caron* for the leasing of the instrument and giving his permission for us to sample it.

A big thanks to *Xiang Cao*, developer of the Maize Engine and Sampler software, which made this VST possible.

Last but not least, **major** credit is due to our testing team which provided feedback as we built the instrument. You guys rock!

Matthew “*Deadlyfishes*” Pablo, Jose “*Nimble*” Hernandez, Ryan Stunkel,

Édouard Blain, Stephan “*Step*” Wells, Annette “*Troisnyx*” Singh,

Elan Hickler (*denoised the samples too!*), Simon Autenrieth, Bill Thompson,

Walid Feghali and Jon Timpe