



www.muon-software.com

Muon Tau Pro User Manual

Thank you for purchasing the Muon Tau Pro Virtual Synthesiser Plug-in. We hope that you will find that it offers unrivalled creative possibilities for the price, with excellent performance. To get the best out of your purchase, you should read this manual carefully. Don't forget also that we're here to help at service@muon-software.com.

The Muon Team

1. Introduction



The Tau Pro is a complex synthesiser, combining elements of those coveted classic analogue modules with some new and innovative features. The Tau Pro gets its fantastic sound from Muon's advanced 64-bit Analogue Modelling technology, and adds the kind of hands on control that you need to take your music to new heights.

2. Front Panel Control Basics

The Muon Tau Pro has a wide variety of controls for creating sounds, with thousands of possible variations. The circular knob controls are used to adjust parameters that have a continuously adjustable range, whereas the buttons are used to select a choice from a limited set of options.

For example, the VCO1 waveform control may only be set to one of the eleven available choices. If you left-click with the mouse on the button, it will change to the next choice. Right-clicking with the mouse sets the button to the previous choice. If you have a single-button mouse you can use the ALT key on your keyboard whilst clicking to do this. Pressing CTRL and clicking on a button always returns you to the first option. You may also click the animated "mode" switch next to the button if you prefer.

The knobs can either be operated in the normal VST plug-in "circle" mode or alternatively in "vertical" mode.

In the former, the knob is clicked on, and then the mouse is dragged with a circular motion around the control. The marker on the knob will follow the mouse pointer until the mouse button is released, and so the wider the circle, the more fine the changes you can make. You may notice that when you click on the knob for the first time its value may "jump" to face the mouse pointer - to avoid this, click firstly on the end of the knob's marker, or use vertical mode.

In vertical mode the knob is clicked on with the mouse and the value only changes when the mouse is moved up and down. To make finer adjustments, hold down the SHIFT key when moving the mouse.

The mode of an individual knob can be changed by holding down the ALT key on the keyboard before clicking on it and whilst dragging the mouse.

You can change the mode of all of the Tau Pro's knobs at once with the button in the top left of the screen marked with a circular arrow (circle mode) or two bright vertical arrows (vertical mode) - see the picture below.



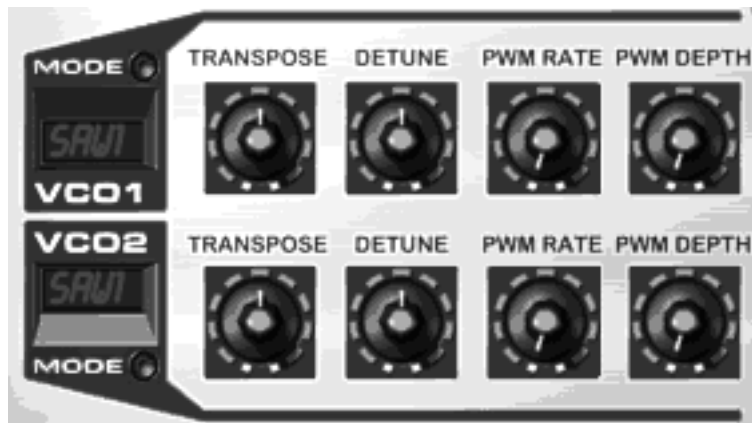
The user interface settings buttons

Also in this top left corner of the Tau Pro's panel is a useful button that allows you to see the value of the sound parameter a knob is changing when you click on it. The button is marked with "0.0" and is either on (bright) or off (dark). Whilst you are learning your way around the Tau Pro, or if you wish to make fine adjustments, this is a very useful feature.

Finally, if you wish to set any control back to its default value quickly, then just press and hold down CTRL on your keyboard when you click - this works for buttons too.

Click the Tau Pro logo to see the version number and credits.

3. The Oscillator Section



Each of the Tau Pro's Virtual Computerised Oscillators (VCO for short) produces a single sound waveform, and these are mixed together in the Mixer section (next) to make the basic sound of the synth.

You can adjust the individual oscillators so that the pitch they play is up to 12 semitones higher or lower (using the transpose control) than the note the synth receives over MIDI. The fine pitch (detune) can be adjusted for each oscillator also. Setting the detune on different oscillators to different amounts will produce a wide, swirling effect as the oscillators "beat" against each other - this is great for big, fat patches. You can also set the volume of each oscillator using the level control.

The final output volume of both oscillators, and consequently the whole patch, is set using the master volume control. See the section on master controls for more detail later on in this manual.

You can choose the waveform generated by each oscillator by clicking the Mode button. There are eleven built-in waveforms, five sawtooth, five rectangular and sine wave. The first sawtooth and square waves (SAW1 and SQU1) are as you'd expect from a standard synthesiser, as is the sine wave. The other four saw and four square waves have additional harmonics added in increasing proportion for extra bite.

All waveforms in the Tau Pro can be modulated in real time using the PWM Depth and Rate controls. On a traditional synth pulse-width typically only refers to the square wave - this is true in Muon synths such as the Electron and Atom Pro even. However, in the Tau Pro, all waves can be modulated in this way. The Depth Control is used to set the strength of the effect, and the Rate control sets the speed of the sweep.

The actual audible effect is that of different groups of harmonics sweeping and swirling, like a complex filter or sound shaper. This is great in lead sounds, filter sweeps and trancey basslines.

4. The Oscillator Mixer Section



The output of the Tau Pro's oscillators can be combined in three different ways using the Mix mode button. The first mode "OFF" simply enables the balance knob to control the amount of each oscillator that goes to the output (fully left=VCO1 only, fully right=VCO2 only, middle=both).

If the Mix Mode is set to Sync the shape of the VCO1's wave output is retriggered whenever VCO2 starts its cycle over. This causes a distortion that you can vary by changing the transpose and detune settings for VCO1 - however the pitch will not change. If VCO1 is syncing you can change its pitch by changing the pitch of VCO2.

Note though that it is in the nature of the oscillator sync in general that things can get a bit unstable towards the top of the keyboard!

Ring Modulation (MIX Mode=RING) means that the output of VCO2 is multiplied (amplitude modulated) with the output of VCO1. The strength of the ring modulation is controlled by the balance knob (fully left=no effect, fully right=max). Ring modulation is great for hard, biting timbres and atonal, metallic noises. Try it!

5. The Articulation Section



The Tau Pro has a powerful VCF and envelope section (Virtual Computerised Filter), capable of warping the sound of the oscillators beyond all recognition. This is where the majority of the work in creating a patch is done!

The VCF is a resonant lowpass design, which means that it removes brighter harmonics but lets the lower frequencies through. The filter has three possible response settings - 18, 24 or 36 dB per octave. These settings control how strong the filter is, with 18dB being the weakest.

In all cases, the Cut off knob controls where in the frequency range the filter begins to act. The Q control is used to add a boost to the frequencies immediately around the cut off point. Setting this control to 100% will cause the filter to turn into an oscillator, which can be used to great effect (though watch out for the levels - the Tau Pro can easily distort the input of your sequencer's mixer at high Q).

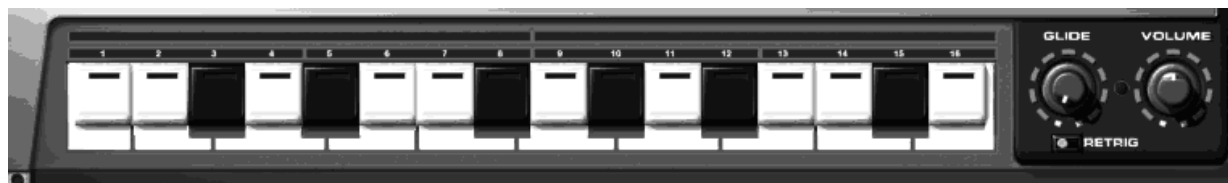
The EG Mod and EG Decay knobs govern how the synth automatically opens and closes the filter. The EG Mod control sets how strong the opening and closing of the filter is, and the EG decay determines how long this takes. Long decay times and high EG mod settings create biting, deep sweeps. Shorter decay times and high EG mod settings give a “plucked” effect. Experimentation is the key here!

Along with the Cutoff and Q controls, these are the primary way to create moving, dynamic sounds in the Tau Pro. Don't forget that you can often get the best effects by turning the controls whilst your riff is playing - and you can normally record the changes too into your sequencer. This is everything you need for driving, pulsating basslines and riffs!

The Accent Threshold and Accent Level knobs control another important way in which the Tau Pro's sound can be made more dynamic. Quite often with many keyboards hitting the key harder results in a brighter sound - the Muon Electron has this feature. However, the style of classic synth the Tau Pro is based on originally had a 16-step sequencer rather than a keyboard, where it was possible to add an “accent” to certain notes to make them brighter and louder. Tau Pro simulates this by using the Accent controls - set the threshold to just above your normal playing velocity. If you hit a key harder than normal, the Tau Pro will open the filter a bit more, the exact amount is determined by the Accent Level knob.

The final control in this section is the Drive knob. This overloads the input stage of the Tau Pro's amplifier, much like you might do with an analogue tape deck, recording desk or electric guitar to get a warm, fuzzed-out overdrive. Use the drive knob to get warm, full sounds with a searing edge of distortion - especially good on bleepy acid basslines!

7. The Master Section



At the bottom of the Tau Pro is a small 16-note virtual keyboard (from B1 to D3). The keys do not send MIDI messages, but respond to mouse clicks if you wish to quickly audition a sound. When the Tau Pro receives an incoming MIDI Note On or Off messages the keys will animate too - if you have a MIDI or Audio problem this can help determine whether or not signals are getting into the Tau Pro and that sound is getting out.

The remaining three controls in the section are the Master Volume, Glide Time and Retrigger selectors. The Master Volume control determines the final output level of the Tau Pro before the sound is sent to the sequencer.

The Glide knob is used to activate the Tau Pro's fingered legato mode. When the red light next to the knob is on, pressing down one key and then "slurring" to another note will cause the pitch to bend from the first to the second. The Glide Time knob controls the speed of this pitch bend. These kind of pitch slides require a certain playing technique, but you can force particular notes to overlap and therefore glide easily enough in your sequencer's editor.

When gliding, the Tau Pro's envelope is not retriggered. This means that if you have a short decay time the second note will sound "dull", and the EnvMod control will have no effect. This is perfect for smoothly slurring notes from one to the other, but is not so perfect for "ordinary" bass sounds. If you want the envelope to open each time a Note On message is received, flick the Retrigger switch to the right. If Glide mode was previously activated (as indicated by a glowing red LED) you will now see that it is shut down when retrigger is on.

8. The FX Processor



The Tau Pro also contains a comprehensive stereo multi FX unit packed with creative possibilities.

The basic effect program is selected using the FX Mode button, and then tuned to taste with the knobs to the right.

Available FX programs are as follows:

OFF	- Dry sound only
CHR1	- Warm Stereo Chorus
CHR2	- Wide Stereo Chorus
FLG1	- Warm Stereo Flange
FLG2	- Wide Stereo Flange
DLY1	- Vintage delay
DLY2	- Clean delay
C + D	- Mono chorus feeding into vintage delay
F + D	- Mono flange feeding into vintage delay

In the Chorus and Flange modes the LFO Rate and LFO depth knobs determine the speed of the sweep and its depth. The Feedback control adds a ringing, watery edge to the flange and makes the chorus richer. Feedback can be both negative (fully left) and positive (fully right) or off completely (centre). Switching off feedback or using negative feedback can increase the clarity and “tightness” of the effect. The Delay Time control has no purpose in Chorus and Flange effect patches.

When a Delay patch is selected, the LFO Rate and LFO Depth controls have no purpose. The Feedback control determines how much regeneration there is after each echo - high settings will cause the echoes to die away very slowly. Negative feedback has the same effect as positive feedback but the repeats can sometimes sit in a track better as they become inverted and do not interfere so much with the main signal.

The final two patches are combined, and thus use all the available controls. However, in the combined modes the Wet Mix control determines only the amount of echo - the mono chorus/flange part of the effect is fixed.

9. MIDI Control

The Tau Pro has a comprehensive MIDI implementation. In this manual you will have seen so far how velocity can be used to control the Accent feature. Additionally, the Tau Pro responds to MIDI continuous controller messages.

These CC messages are numbered from 1-127. The Tau Pro can only respond to CC's 75-97. You can usually configure these in your hardware controller's setup facility or software package. Only parameters that have continuous ranges can be controlled by CC's. These parameters, and their value ranges, are listed below.

Please note though that the Tau Pro's controls cannot SEND CC values. It can only receive them.

Parameter	CC	Range
VCO1 Transpose	75	0-127, 64=centre (no transpose)
VCO1 Detune	76	0-127, 64=centre (no detune)
PWM1 Rate	77	0-127
PWM1 Depth	78	0-127
VCO2 Transpose	79	0-127, 64=centre (no transpose)
VCO2 Detune	80	0-127, 64=centre (no detune)
PWM2rate	81	0-127
PWM2depth	82	0-127
VCO Balance	83	0-127, 64=centre (50:50 balance)
VCF cutoff	84	0-127
VCF resonance	85	0-127
VCF envmod	86	0-127
VCF decay	87	0-127
Accent Threshold	88	0-127
Accent Level	89	0-127
Drive	90	0-127
FX Delay Time	91	0-127
FX LFO rate	92	0-127
FX LFO depth	93	0-127
FX Feedback	94	0-127, 64=centre (no feedback)
FX Wet Level	95	0-127
Glide Time	96	0-127
MasterVolume	97	0-127

10. Getting Help

It's no doubt that the Tau Pro is a powerful synthesiser, and it is designed to make creating new sounds easy and quick. For some though all that power can be daunting -just mail us at service@muon-software.com and we'll do our best to answer your questions quickly and courteously.

There's also a support page on our website for Tau Pro Users. We hope that if you make a great sound with your new synth and feel like sharing it you'll send it to us so we can post it on the users page for others to download. You will also find news of user issues and upgrade information here too.

Best of luck!!

(c) Muon Software 2001
www.muon-software.com