



## FUTURERETRO

### *XS Tips and Tricks*

*Here are a few tips and tricks for the XS semi-modular synthesizer which are not discussed in the owner's manual.*

#### **Optimizing the noise floor**

In some cases such as filtering external audio, with certain settings you might notice some slight bleed through of the oscillators which would be undesirable. Here we discuss how to optimize the noise floor to help you achieve the cleanest possible signal.

If you're not using Oscillator A, set its waveform to external. If you're not using Oscillator B, set its waveform to sine. If you're not using Wave C, set it to external. Typically you would want to make sure any sources you are not using are turned all the way down in the mixer section.

However, with the Wave A and C controls set to external, in some cases you get a lower noise floor by adjusting or increasing their relative mixer control level. The reason this works is the external preamp is actually out of phase with the mixer so if noise is present, increasing the waveform set to external will in fact cancel out the noise you are hearing.

With Wave B, you can generally set it to the sine wave and set its pitch all the way up or down to push it out of the audio range.

#### **Creating super exponential envelopes**

The envelopes in the XS already have an exponential curve, and are plenty snappy on their own. But here is a trick to turn them into super exponential curves.

You can make your main filter envelope more exponential and snappy by routing the positive polarity Envelope out signal to the Velocity in jack. Play with the Velocity amount control for the filter, as the higher its setting the more exponential the envelope becomes. Although notice extreme high settings will not allow the envelope to work, but will not harm the unit.

You can achieve a similar effect in the Amplifier section by playing with the Amplifier's Velocity control with the positive polarity Envelope out signal connected to the Velocity in jack.

And notice when you do this you are actually having both envelopes 1 and 2 now affect Amplifier. Again notice, extremely high settings of the amplifiers Velocity control may not allow the audio to pass through the amplifier, so play around with the settings.

#### **Making the oscillator waveforms more exponential**

Another cool thing to do is making the oscillator waveforms more exponential. The effect of having more exponential waveforms can be very useful when using an oscillator as a LFO modulation source. However it is not very useful when using the oscillator as an audio source.

Try routing wave B's signal back into the oscillator modulation jack. Set oscillator B's modulation to external, and play with the amount this external signal modulates oscillator B. More modulation equals more exponential waveforms.

To really hear the effect set the filter to self oscillate, and all levels in the mixer section turned off. Set wave B to modulate the filter, and try selecting either the sine, saw, or triangle waves for oscillator B.

Notice how normally a sine wave sweeping the filter would sound more like a siren. But with a more exponential sine wave shape you get more of a whip-like sound. A more exponential saw waveform will give you a traditional decaying envelope effect.