# papua merdeka

vst synthesizer 2016 xoxos.net

## inspiration

I was looking at waveforms of brass instruments, and had an idea for emulating them with a method similar to phase distortion synthesis. While it is a simple way of drawing a similar waveshape, in performance it can sound quite different. I experimented and added some modifications to the oscillator and decided to give the vst two synthesis modes: one for brass and a more efficient basic mode.

The result is a fun, very efficient synthesizer that doesn't necessarily sound like anything previous to it.

## synthesis

The synthesizer does not include a filter as the oscillator emphasises a specific point in the spectrum. Unlike phase distortion synthesis, this frequency is fixed and does not follow the oscillator pitch. A second parameter acts like a filter resonance and shapes the spectral envelope of the oscillator. There are five different oscillator models (low, band, steep, formant, linear) and the spectral envelope works differently between them.

It was also possible to add a simple contour modification (numbered 0 through 5) which changes the spectral weighting. Higher numbers add more bass frequencies.

## modes

There are two LFO modulation sources, labeled 'lip' and 'mod'. The brass mode (when the mode button is lit) randomises the modulators slightly for a more natural effect. In synth mode, 'lip' modulates the pitch and 'mod' applies to the frequency setting. The rate and range of the LFO modulators is also different in each mode.

Brass mode includes a simple pitch 'vary' function and 'breath' which adds a noise source (the randomiser) to the output. Both of these parameters have no effect in synth mode.

In synth mode, the pitch LFO is calculated at the beginning of each wavecycle, and can be driven to high frequency rates which can interact with the pitch to generate stochastic effects.

These economisations add character in unique timbre to the synthesizer.

## instrumental parameters

To make this vst useful for expressive and emulative parts and create unique performance effects, a separate glide control is able to set the amount of smoothing between note velocities.

Tuning and temperament specification has also been added. These parameters are not affected by patch changes. If you do not know what to use them for, leave the temperament on 'equal' and the tuning on '440' to stay in tune with your other vst.

## envelopes

Envelopes include trimmers to set the velocity response of the envelope attack and decay/release rates as well as the height. The modulation envelope also includes separate contour control over the attack and decay/release stages.

The modulation envelope reinitialises to zero when a note is triggered. Attacks may sound like clicking with overlapped playing as the lowest settings are fast enough to be audible.

this vst is created with the wish for
freedom for west papua

Papua Merdeka VST was realised with the SynthEdit SDK - www.SynthEdit.com

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