Vulpus Labs

Crosstalk

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Introduction

Crosstalk is a polyphonic module which propagates signals across polyphonic channels, mixing and muddying the pristine separation of signals.

It has two modes, which can be applied simultaneously. *Bleed* mode adds an attenuated signal from one channel to another, imitating the behaviour of hardware affected by capacitative coupling. *Ring Modulation* mode multiplies each channel's signal with every other channel's signals, introducing ringing distortion. Both the "bleed" and the "ring modulation" signal are passed through a simple filter which cuts low frequencies below, and boosts high frequencies above, a centre frequency.

A noise circuit optionally adds low-level noise to the mix.

Crosstalk is good for dirtying-up polyphonic synths, and introducing subtle cohesion to stereo-separated signals (e.g. when a polyphonic signal is distributed in stereo space by the *Poly Stereo Spread* module).

Usage

For each channel in its polyphonic input, **Crosstalk** generates a “crossed” signal which contains a blend of:

•low-level noise (if the noise generator is switched on)

•“bleed” from other channels

•the sum of the signals produced by ring-modulating that channel with every other channel.

This signal is passed through the filter then mixed into the target channel.

The three large knobs control the level of the **BLEED** signal, the level of the **RING** modulated signal, and the centre frequency of the **FILTER**.

Each can be modulated via a CV signal sent to the adjacent input jack, with the small red knob on the right controlling how much the CV signal affects the value positively or negatively.

The switch next to the poly **IN** jack at the top turns the noise generator on and off.

The red knob next to the poly **OUT** jack at the bottom controls the mix of wet and dry signal.

Credits and Acknowledgements

Crosstalk was written by Dominic Fox in February 2023.

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