

# Freqshift

## Frequency Shifting Effect ADM04

Freqshift is a digital recreation of the analog frequency shifter modules of decades long gone. Unlike more common pitch shifters, which raise or lower the pitch of a sound by some ratio (such as an octave or a fifth), frequency shifters add a specific frequency ( 321Hz, for example) to the signal and all of its

harmonics. This alters the timbre of the sound in a manner unlike other familiar effects processors. Freqshift replaces complex analog circuitry with calibration-free digital processing, delivering a frequency shifter in a compact, flexible, but economically priced Eurorack module.

### Control-Voltage Jacks

Control voltages present at the jacks are added to the values set with the knobs. Positive voltages have the same effect as rotating the corresponding knob clockwise; negative voltages have the same effect as rotating the knob anti-clockwise.

The influences of the knobs and their corresponding jack are cumulative. For example, if you turn a knob all the way clockwise and apply -5V to the corresponding jack, you'll hear the same thing as you would if you left the knob at its center position and didn't plug anything into the jack.

The useful range of voltage for the CV jacks is  $\pm 5V$ .

### Audio Input Jack

The audio input signal goes in here. The hardware will be happiest if the signal level is within  $\pm 7V$ .



### Knobs

The **SHIFT** knob changes the amount that the signal's frequencies are raised or lowered. Turning the knob clockwise from its center position shifts the frequencies upward; turning it anti-clockwise shifts them down. The maximum amounts of shift are 6000Hz up, 1000Hz down.

The **REGEN** knob sends the shifted signal back into the input of the module. Turning the knob clockwise from its center position feeds the up-shifted signal back into the input; turning it anti-clockwise feeds the down-shifted signal back. Note that this means that the module's output can be shifted upwards while a downward-shifted signal is fed back, and vice versa.

**MIX** varies the amount of the original input signal and the processed signal in the output. At the center position you'll hear only the input signal. Turn the knob anti-clockwise and you'll hear the signal shifted in the direction set by the **SHIFT** knob. Turn the knob clockwise and you'll hear signals shifted both upwards and downwards.

### Audio Output Jack

This is the module's output jack. Satisfactory operation depends upon you plugging one end of cable in here and the other end into something else.

- A small amount of shifting creates tremolo or chorusing effects. A large amount of shifting can transform the signal into something quite unrecognizable.
- Freqshift can go just about anywhere in the signal path of your patch. Its unusual effects merit experimentation. That's why you have a modular, right?

- In case you're wondering about the asymmetric nature of the **SHIFT** knob: if you shift frequencies far enough down that they go below zero, you get the same result as an upward shift. Limiting Freqshift's downward shift provides finer control over the most generally useful frequency range.



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