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# Whey Manual

Synthetic FX



November, 2019

## Whey Users Manual



**Figure 1:** Whey

Whey is a unique digital filter that alters the input via two parameters.

## **Input**

Whey has a single input that drives filter.

## **Output**

Whey has a five outputs that are the result of processing from the filter.

### **Output**

The Output provides an unfiltered direct output ignoring any frequency. This is a straight output without any equalization applied.

### **High Pass**

The High Pass output provides frequency output above the cutoff frequency.

### **Low Pass**

The Low Pass output provides frequency output below the cutoff frequency.

### **Band Pass**

The Band Pass output provides filtered output near the cutoff frequency.

### **Notch**

The Notch output provides filtered output with the frequencies around and including the cutoff frequency lowered. ## Parameters

Whey provides parameters to adjust the overall sound of the module. Each parameter is accompanied by a CV input that accepts input from  $-5$  volts to  $10$  volts that affect the value of the parameter. Each volt is equal to 10% of the total value of the parameter, and is additive. This means that if a parameter has a range of 0 to 1, and is set to 0.5, the addition of a CV input set to 1 volt will set the parameter to 0.6.

## Frequency

The Frequency parameter controls the target frequency of the frequency filter. This is defined in hertz and can be set between 0 and 20000 hertz. This Frequency is used for the split outputs:

- Band Pass
- High Pass
- Low Pass
- Notch

In addition, Whey has a V/Oct frequency input that can track the intended frequency of the filter. When a frequency is input, the Frequency parameter becomes additive.

## Q

The Q parameter adjusts the “Quality” signal. This allows you to change the bandwidth of the equalization.

## Lactose

The Lactose parameter controls one aspect of the signal processing, and has an input value ranging from 0 to 1.

## Acid

The Acid parameter controls one aspect of the signal processing, and has an input value ranging from 0 to 1.

## Delay

The Delay parameter introduces two artificial delays into the signal.

## Polyphony

Whey is a polyphonic module, meaning that it can process input and output for more than one set of inputs at a time. Whey can process up to 16 channels per input. Each channel is processed separately, with its own copy of the filter, but all copies use the same parameter settings.