

# User Manual

## FS5 Switched Filter

### Overview

The FS5 Switched Filter is a plug-in resonant low pass filter module for the Underhill onboard bass preamp system. It uses a potentiometer to select the cut-off frequency, and switches to select up to three levels of resonant boost at the cut-off frequency. The filter is attached to the PD preamp with a five wire filter cable, and has three wire connectors for the frequency potentiometer and two switches. Two onboard micro-switches are used to set the operation mode.

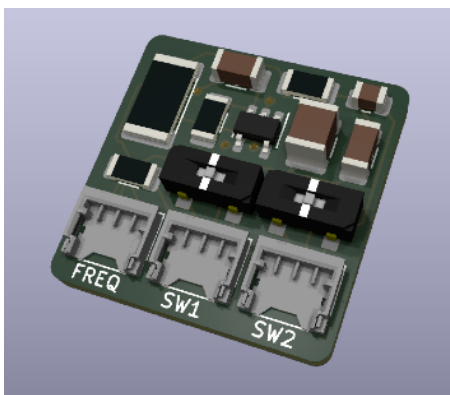


Fig. 1 - Board Front

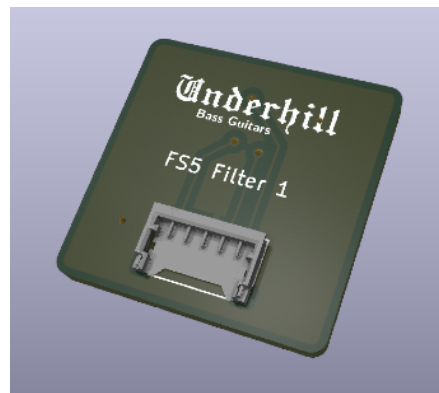


Fig 2. - Board Back

### Installation

See the General Installation Manual for details on cable connections, module mounting, potentiometer installation, and troubleshooting before you install a filter for the first time. There are no special requirements for installing the FS5 Filter.

### Single Mode

In Single Mode, the boost level can be set to low, medium, or high with the onboard switches. In this mode, no external switches are needed. The micro-switches should be set to one of the following configurations (viewed as in Fig. 1 above).

<b>BOOST</b>	<b>Micro SW1</b>	<b>Micro SW2</b>
Low	LEFT	LEFT
Medium	RIGHT	LEFT
High	ANY	RIGHT

## Dual Mode

In Dual Mode, a single external switch, or one side of a dual switch, is plugged into the SW1 or SW2 connector (Fig. 1). The switch will select between any two boost levels depending on the following configuration.

<b>BOOST</b>	<b>CABLE</b>	<b>Micro SW1</b>	<b>Micro SW2</b>
Low/Medium	SW1	CENTER	LEFT
Low/High	SW2	LEFT	CENTER
Medium/High	SW2	RIGHT	CENTER

For dual filter setups, separate single or double switches can be used for each filter, or you can use a double (S2, S3, or VS) switch to toggle both filters together. For example, you could use the VS volume push-pull to toggle the bridge filter between low / medium and the neck filter between medium / high at the same time. The S3 switch will allow one filter to be toggled first (in the middle position).

## Triple Mode

By using an S3 switch and two cables, you can toggle between low, medium and high boost levels on the FS5. Connect the two cables as in Fig. 3, and set the switches as follows:

<b>BOOST</b>	<b>CABLES</b>	<b>Micro SW1</b>	<b>Micro SW2</b>
Low/Medium/High	Fig. 3	CENTER	CENTER

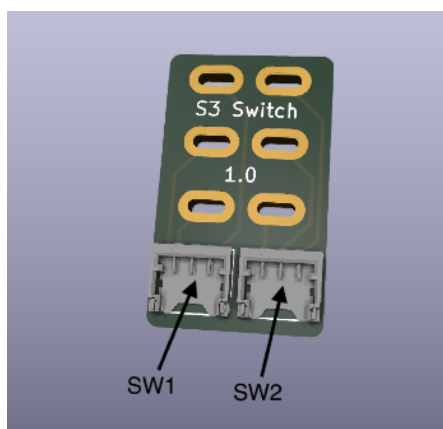


Fig. 3 - S3 Switch

# Specifications

The standard FS5 filter has the following specifications. For custom tunings, contact [tim@underhillbass.com](mailto:tim@underhillbass.com) to discuss options and prices.

Supply voltage	9-18V (supplied by PD)
Cut-off frequency (variable)	115-5000 Hz
Resonant peak level (switched)	1/6/10 dB
Idle Current	0.45 mA
Dimensions	19.2 x 19 x 6 mm

