

AP106 Sub Oscillator Module

Hardware Description & Operation



Introduction

The Sub Oscillator Module provides division of an input frequency to allow a lower frequency signal to be fed back into a synthesiser chain adding bigger bass notes.

Operation

Power Connector

This is a barrel connector with a 2.1mm centre pin. It is compatible with guitar pedal power supplies that are easily and economically available. The centre pin is negative. It is important that the device has its own isolated power supply to ensure that the output of the sub oscillator remains at +/- 5V levels. Please do not use a multi-connector with daisy chained pedals.



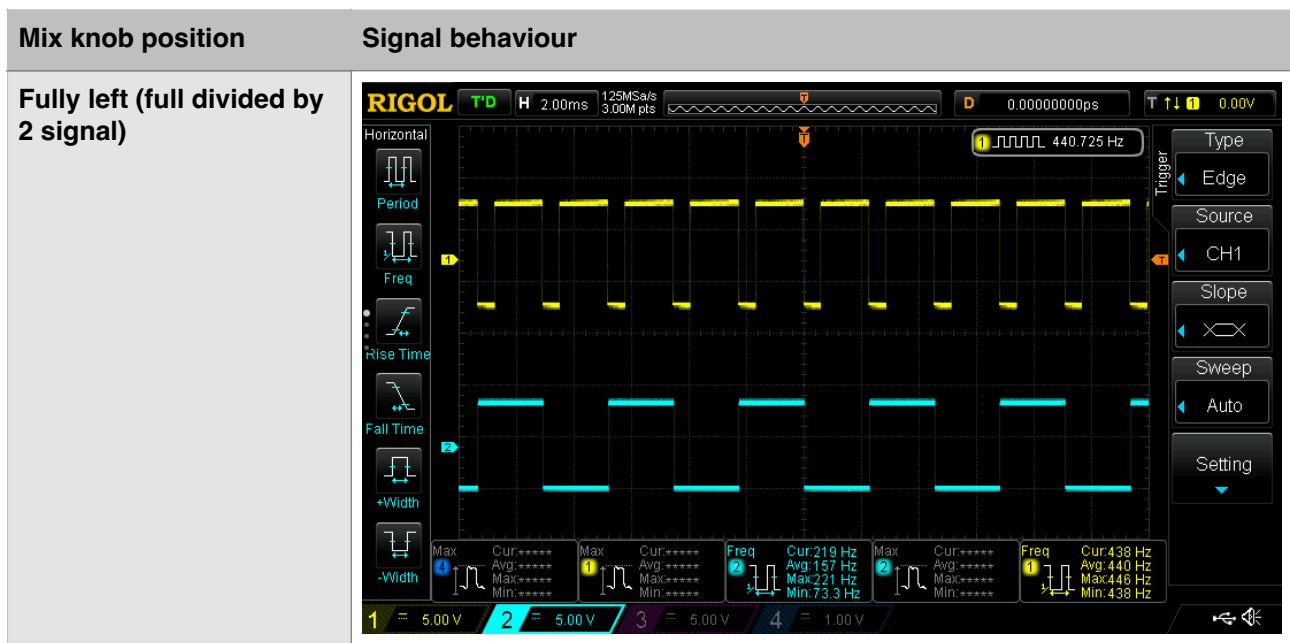
When power is applied, an LED illuminates. If the bare PCB version is the one you have, take care that the PCB does not short onto anything else. There are two 2.5mm screw holes in the board to enable mounting safely to a surface or inside equipment.

Front Panel

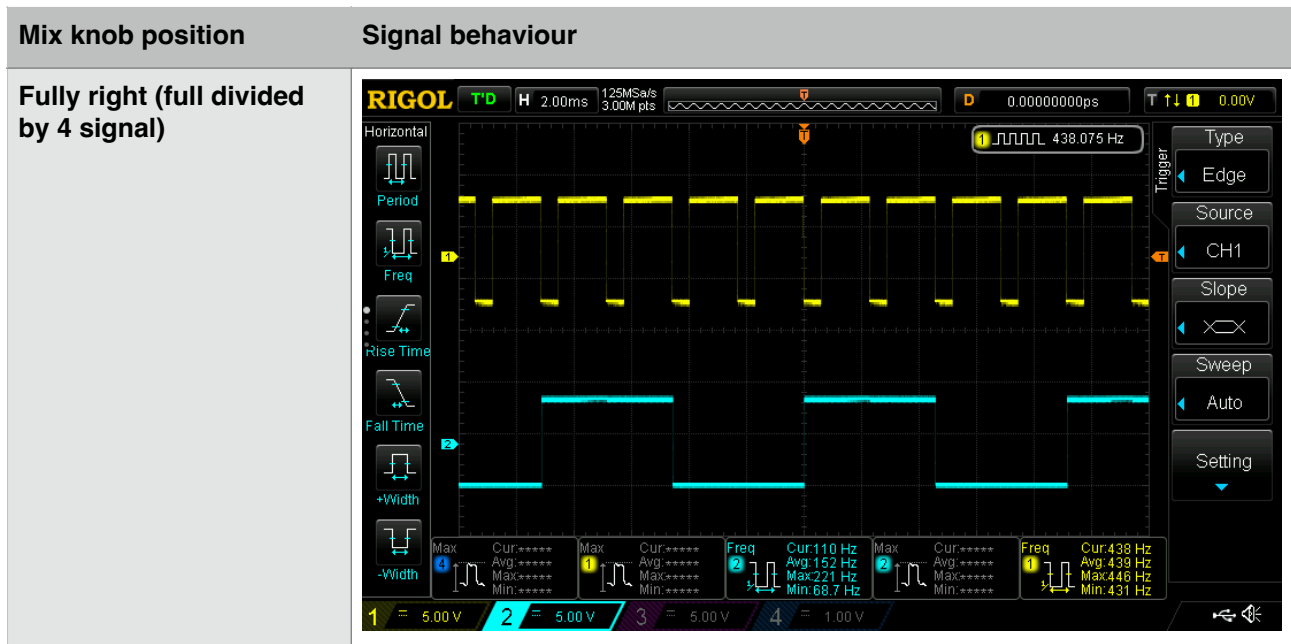
With the power connector at the top, there are four items on the front panel. Left to right they are Mix control, input jack, output jack and through jack.

Mix control

This provides a mix from the input frequency divided by 2 to the input frequency divided by 4 - and a mix in between. At the full left position it is divided by two. The oscilloscope traces below with the input in yellow and output in blue show how the output is mixed.







Input Jack

This is a 3.5mm jack that will accept an oscillator output from a modular synthesiser. The output expected is a +/- 5V signal. Typically, the output "Osc Pulse" from a synthesiser such as the Behringer Crave would be used.

Output Jack

A +/- 5V signal ready to feed back into the synthesiser chain. Typically fed back into a "Ext Audio" input on a device such as the Behringer Crave.

Through Jack

Electrically connected to the input Jack, allows for daisy chaining of other devices (maybe a second sub oscillator).

Specifications

- Dimensions - 60mm x 35mm x 20mm in case (not including control knob and connector)
- Weight - 50 grams
- Voltage - 9V DC on 2.1mm connector, +ve on outer
- Power - <500mW
- Enclosure - Hammond 1551HTBU

All electronic & firmware design by Ambient Power in the UK.