Hampshire Electronics

Wave Folder in Eurorack Format

Instructions and Details

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Overview

The Hampshire Electronics Wave Folder Module is a 100% analogue wave folder in the popular Eurorack format.

The wave folder limits the peaks of the input signal but rather than just clipping it actually inverts the signal and folds it back on itself. This leads to some amazing and interesting timbres, often generated with no more than a sine input wave.

The folding depth and the number of folded peaks are fully controllable. A CV input is also provided to control the number of folds with attenuator.

The key details of the Wave Folder are:

- 8HP Wide Eurorack module with thin profile (20mm deep from faceplate)
- Controls designed and laid-out with performance in mind
- 100% analogue circuitry
- Tough yet light composite faceplate
- Input range from -5v to +5v
- Control over the depth of the fold
- Control over the number of folds
- CV control (0v to +5v) over the number of folds with attenuator
- Trim pots for the input offset and shape symmetry
- Diode protected power input
- 13ma @ +12v
- 13ma @ -12v

Installation

Power Availability

The Wave Folder module draws the following current from your power supply:

13ma @ +12v

13ma @ -12v

You should first ensure that your power system has enough power capacity to drive the module before considering installation. If you are in doubt, please consult with your power supply manufacturer.

Connecting the Power

Refer to the writing on the back of the module next to the 16-pin power connector to ensure that you connect the power supply correctly. The +12v, -12v and ground (GND) pins will be clearly marked.

The power inputs are diode protected but damage may occur if the unit is connected incorrectly.

Fitment

Use the screws provided to firmly fit the module into your case. You should make sure that the module does not move when you insert and remove patch cables.

Using the Wave Folder Module

The wave folder module is controllable for both depth and number of folds.

The wave folder displays its classic sound on sine wave inputs but any other wave or input signal could also be used. The wave folder is definitely a module to be experimented with!

Input

The **in** jack socket should be used as the input into the wave folder. Any AC signal can be used in the range -5v to +5v.
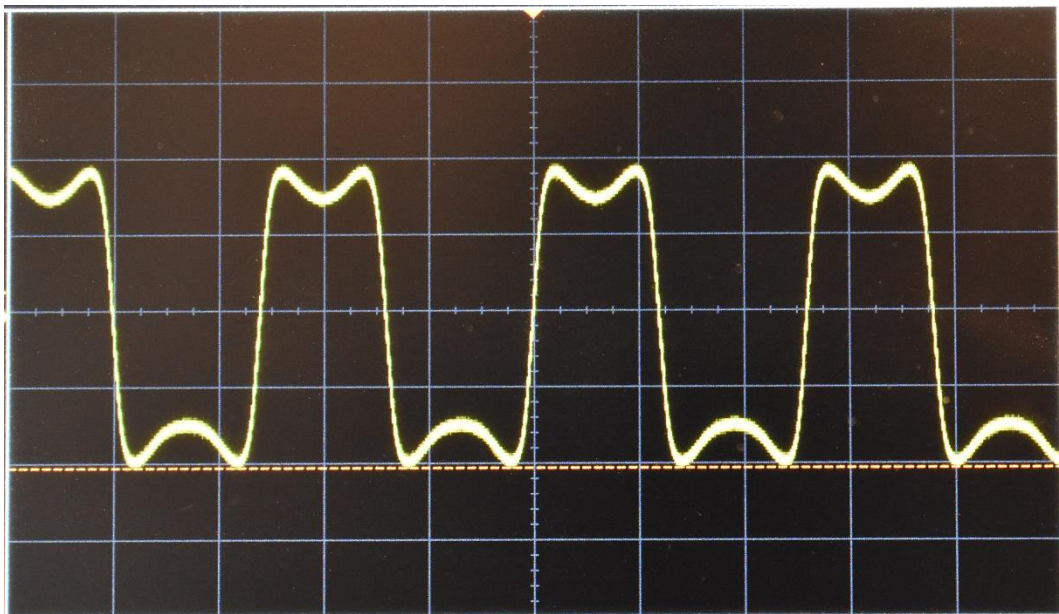
Output

The **out** jack socket should be used as the output of the wave folder. This will be the folded input signal.
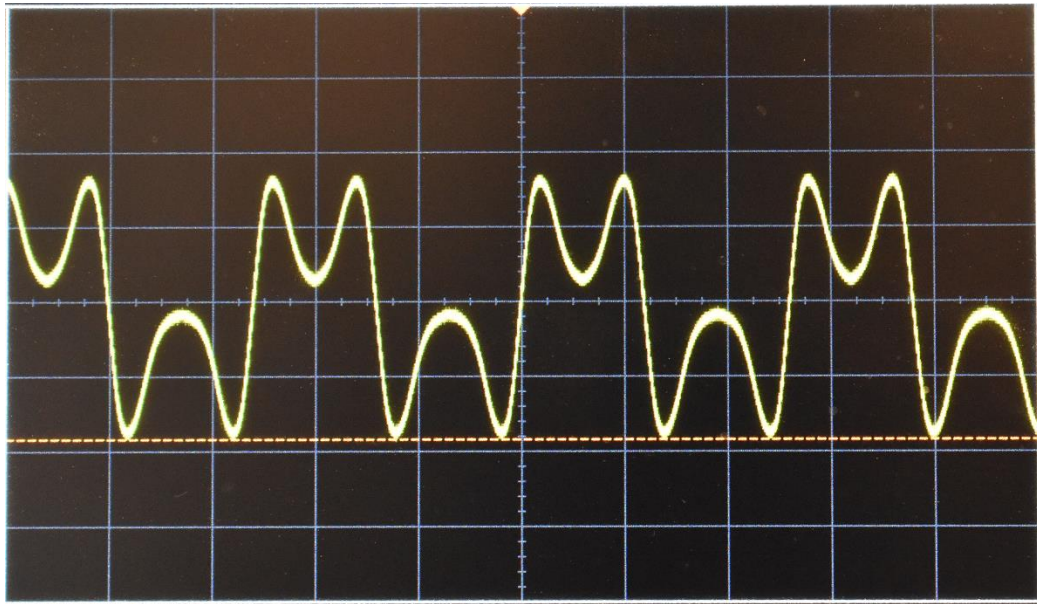
Depth

The **DEPTH** knob controls the amount of folding of the input wave.

When the knob is moved counter-clockwise then the folded peaks are fairly small:
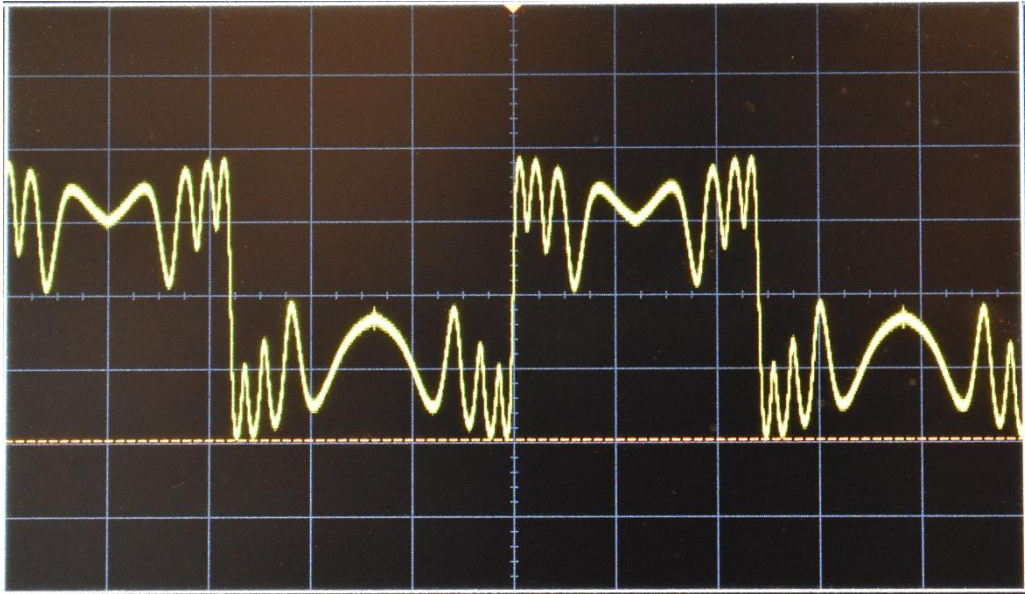
When the **DEPTH** knob is moved clockwise then the folded peaks increase in size, changing the timbre of the sound:

Folds

The **FOLDS** knob changes the number of folds. When the knob is moved counter-clockwise then there is only one fold.

When the **FOLDS** knob is moved clockwise then the number of folds increases:

Folds CV

The number of folds can be controlled via a CV input. This accepts a standard 0v to 5v control voltage input. The **folds** input is used to insert the control voltage.

The **FOLDS CV** knob attenuates the control voltage so that the CV input effect can be increased or reduced. In essence the CV performs the same function as the **FOLDS** knob so it is advised that the **FOLDS** knob be turned fully counter-clockwise when using the **folds** CV input.

Trimming the Wave Folder Module

The trim pots on the Wave Folder module are factory set so should not need adjusting. They can be adjusted if necessary but it is advised that a good oscilloscope is used to aid this process.

Input Trim

The Wave Folder module has two trim pots. The first trim, simply labelled **trim,** is in the input trim. A -5v to +5v sine wave should be inserted into the **in** jack and the **trim** pot should be adjusted until the sine wave passes through cleanly.

Before performing this trimming operation it is important to ensure that the **DEPTH** and **FOLDS** knobs are turned fully counter-clockwise.

Shape Trim

The second trim is for setting the shape of the fold. With the **DEPTH** and **FOLDS** knobs set so that there is noticeable folding, the **shape** trim can be adjusted to ensure symmetry of the wave fold.