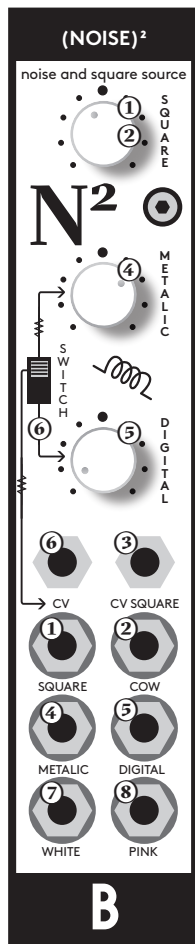


# MULTI NOISE & SQUARE SIGNAL GENERATOR

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# Noise Square

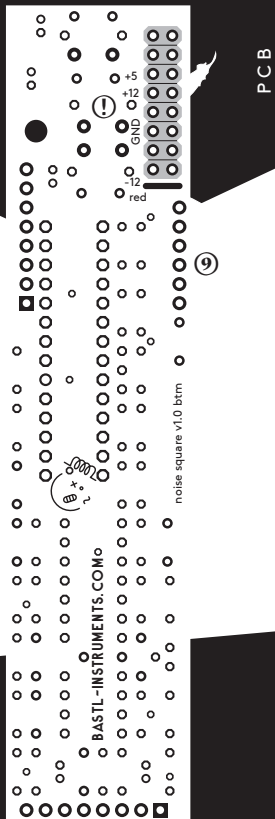
B A S T L

Noise square is a simple noises and squarewave generator. There are two analog noise generators, WHITE noise and PINK noise. All other sound sources are generated digitally. There is also a METALIC noise source, which is a 6 oscillator sound bank, with frequency ratios inspired by the 808. It is generated digitally (but with analog summing) and has a TUNE and CV control option. The DIGITAL noise output generates digital noise which has adjustable TUNE and CV control. The SQUARE and COW outputs have one square wave signal in common and the COW output has another square signal added at a specific frequency, to get the cowbell sound easily. There are 2 CV inputs for controlling the digital sound sources. For the first CV input there is a switch to select whether it controls the METALIC noise or DIGITAL noise tuning. The second CV input is dedicated to both the SQUARE and COW outputs. The CV inputs react to a range of 0-10V.

## instruction

- 1 Simple square wave oscillator tuning by knob and CV
- 2 two square wave oscillators with a fixed frequency ratio suitable for making cowbell sounds - tuning CV input is shared with the square wave
- 3 CV input for square wave and cow generator (0-10V range)
- 4 6 square wave oscillators summed through an analog circuit with frequency ratios inspired by the 808 (can be used as base for synthesizing hats and cymbals) tuneable with a knob and CV

- 5 digital noise generator with adjustable sample rate via a knob and CV
- 6 The CV input switch either sends the incoming CV to the digital or metallic noise generator (0-10V range)
- 7 analog white noise generator
- 8 analog pink noise generator
- 9 FTDi breakout  
the Noise square firmware is open source and open for hacking. It can be done with the Arduino programming environment. All you need is a FTDi USB connector breakout (or an equivalent Arduino compatible substitute).



Take it Carefully

## technical details

- 5HP width
- 35mm deep (skiff friendly)
- current +12: <15mA, -12: <15mA, +5:<20mA
- PTC fuse and diode protected 16 pin power connector
- requires 5V in bus board

## features

- 2 analog noise generators: WHITE and PINK
- 4 digital signal sources
- SQUARE is a simple square wave signal
- COW is composed of the SQUARE signal plus an additional square wave at a special frequency to compose the base of a cowbell sound
- METALIC are 6 square wave oscillators, summed through an analog circuit with frequency ratios inspired by the 808 (it can be used as base for synthesizing hats and cymbals)
- DIGITAL is a digital noise source with a tuning option
- digital signals with multiple square components are summed using analog circuits
- tune controls for METALIC, DIGITAL and SQUARE (applies also to COW)
- common CV input for SQUARE and COW signals
- another CV input with a switch to select whether it affects METALIC or DIGITAL
- CV input range: 0-10V
- handmade in Brno, Czech republic
- breakout for FTDi USB adaptor for hacking the opensource firmware (see github)

## Connecting module to your system

Before connecting the ribbon cable to this module disconnect your system from power !



Double check the polarity of the ribbon cable and that it is not shifted in any direction. the red cable should match the -12V rail both on the module and on the bus board !

please make sure of the following

- you have a standard pinout eurorack bus board
- you have +5V, +12V and -12V rails on that bus board
- the power rails are not overloaded by current

Although we put protection circuits in the device, we do not take any responsibility for damages caused by wrong power supply connection. After you connected everything, double-checked it and closed your system, so no power lines can be touched by hand, turn on your system and test the module.

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