



Real-time Manipulation of Synthesis Parameters using a Brainwave Interface and a Eurorack Modular Synthesizer.

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Abstract. Brief introduction and practical demonstration of real-time manipulation of synthesis parameters using a brainwave Interface and a eurorack modular synthesizer.

Keywords: Eurorack, Modular, Brainwave, Interactive, Demonstration.

An informal presentation and demonstration of a Brainwave controlled Eurorack modular synthesizer, concluding with inviting attendees to wear a Brainwave scanning headband in order to manipulate the modular synth¹.

I will introduce and demonstrate an Interaxon Muse (bluetooth) brainwave sensing headband that will be connected to a laptop running Max/MSP. A Max patch will display brainwaves on screen (perhaps to be projected) and either a Mutable Instruments CV-Pal, nw2s::b (arduino based Eurorack module), or MOTU Ultralite with Expert Sleepers Silent Way Software will turn the scanned data into control voltages. The brainwaves will modulate elements of a 12u portable Eurorack modular synth.

To conclude the demonstration I wish to invite the audience/attendees to use the headband and try the system for themselves - I believe this to be an interesting and fun way of manipulating a synthesizer, one that may spark interest in novel approaches to methods of control and in particular, modular synths.

¹ A brief outline explanation and live captured audio of an early version of this system was included in issue 17.4 of the E-Contact Journal. Available online at -

http://econtact.ca/17_4/omahony_brainwaves.html



Figure 1. Dave O Mahony's setup consists of an Interaxon Muse Headband (brainwave sensor), a Eurorack system and a computer interface.