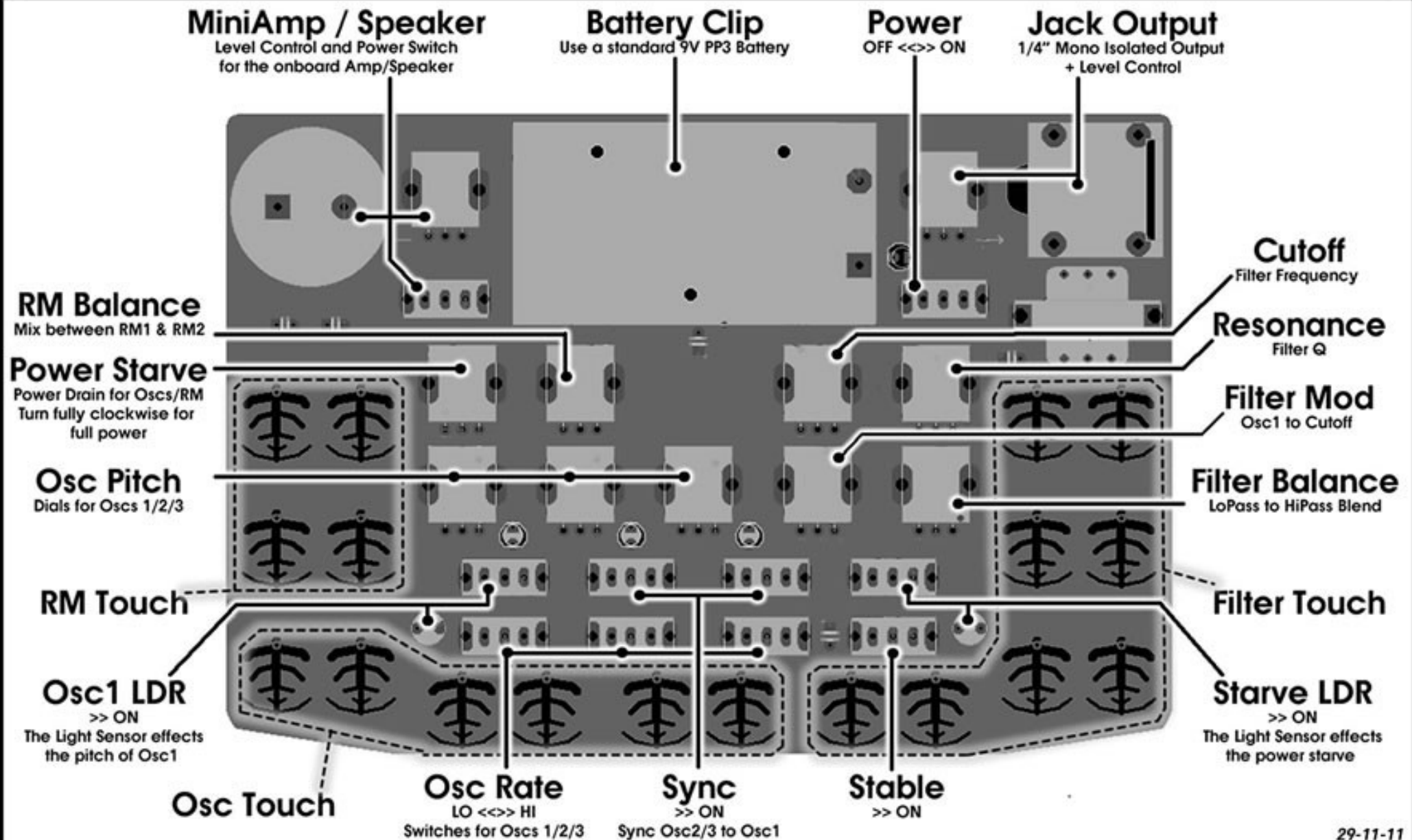
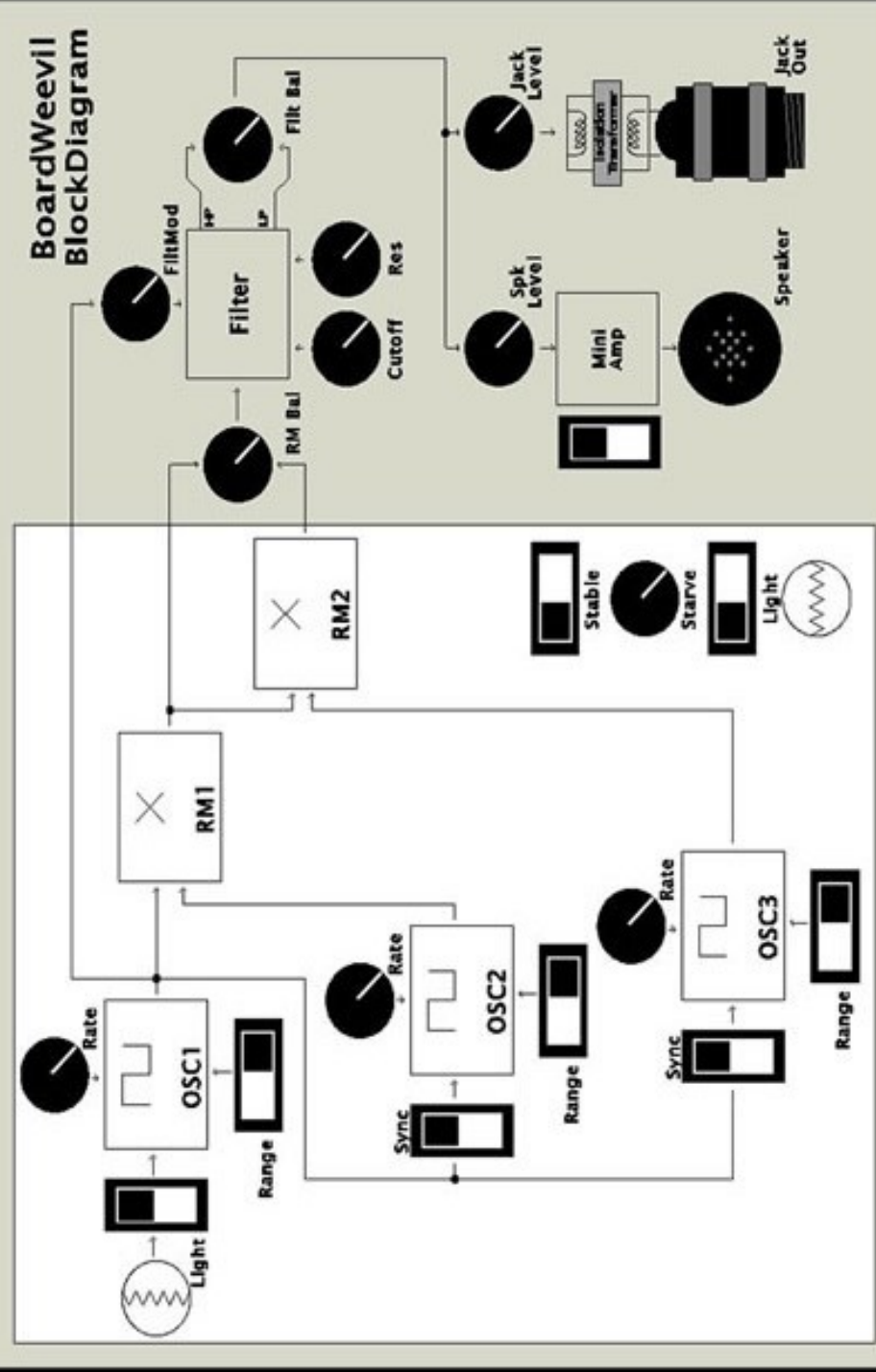


# BugBrand Board Weevil 2012





The BoardWeevil is based around a Sonic-Heart of three Square Wave Oscillators which are combined with two Ring-Modulators. These are followed by a State-Variable Filter offering Low-pass and High-pass responses with variable Resonance. The sounds are released via an onboard MiniAmp & Speaker or from a Transformer Isolated Output Jack. There are 18 Touch-Points for body interaction with the circuitry, along with Power Starve for the oscillators. The best way to learn is to experiment! Also check the Block Diagram below.



**Oscs** - Each Oscillator has a dial and switch to determine the pitch/rate - HI for audio rates, LO for sub-audio clicks. Sync can be used to impose the rate of Osc1 onto Oscs2&3. Osc1 also has an LDR (light sensor) which gives low rates in the dark & high rates in light (turn down the Osc1 Rate dial). The Oscs are combined via the Ring-Modulators with a Balance dial to mix between the two outputs.

**Power Starve** - The Starve dial effects the Oscs and RM, simulating the battery running out of juice and sending the Oscs into crazy-mode. The Stable switch can be activated to add a smoothing capacitor over the starved power-line, resulting in a slightly less chaotic and more droopy behaviour. The Starve has an LDR which increases power (decreases starve) as light increases (turn down Starve dial).

**Filter** - The Weevil employs a Resonant State-Variable Filter to shape the sound. The Filter Cutoff can be controlled by the manual dial and modulated by Osc1 via the Filt Mod dial. This type of filter doesn't go into oscillation when the Resonance is pushed, but it will ring when Resonance is full and low-freq clicky sounds are used. The Balance control blends the output between Low and High Pass Responses.

**Outputs** - The two outputs are independent, each with their own level control. The Jack Output passes through a Transformer so that the circuit is isolated from the outside audio world. The onboard MiniAmp/Speaker gives a naturally different audio response and offers true portability. The Amp uses up more juice than the rest of the circuitry, so you may find that running the Amp will effect the jack output audio response - so a switch is provided to turn off the Amp.

**Touch-Points** - There are pairs of Touch-Points for each Osc and bridging between each pair will tend to raise the Osc's pitch. Each RM has two points - one straight after the RM and another after a comparator / gain-stage. The Filter section has points for Cutoff Modulation, three audio input points and three response output points (Low/Band/High-Pass). There is also a circuit Ground point. The dryness of your skin determines the touch responses - try licking your fingers.

**Notes** - You are advised not to touch the underside circuit when playing - each Touch-Point has a fixed resistor to provide current limit protection, so use the Touch-Points only. Also, do not connect external signals to the machine. Remove the battery in transport to avoid short-circuits.

**Guarantee** - The BoardWeevil is covered by a one year parts warranty. This excludes maltreatment or modification.  
 \*\*\* Email tom@bugbrand.co.uk for questions or comments \*\*\* Thanks to A.B. for the box design \*\*\*