cockshock2

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1 Introduction

cockshock2 is an effort to reverse-engineer, document and hack a dog shock collar for use as an electrical torture device / sex toy.

It was inspired by the Master Series Cock Shock sex toy and it shortcomings (like the dog shock collars, it has an annoying auto shutdown timeout, but it also lacks adjustable intensity and is badly documented). There is another project on fixing the issues in the Cock Shock (https://github.com/spth/cockshock).

This project is based on a common dog-shock collar with adjustable intensity. The collar part is replaced by a shorter strip that better fits male genitals, the auto-shutdown timeout is disabled by replacing the tilt switch by a simple oscillator.

A long-term goal would be to replace the firmware with a free alternative.

2 The Remote Control

TODO: Description.

TODO: Schematics.

3 The Shock Unit

The shock unit consits of a plastic case containing two AAA batteries and a single PCB with the electronics (433.825 MHz receiver, transformer, etc). Two electrodes are protruding from it. While most connections are soldered, the connection between teh wires and electrodes is not. It is simply a wire making contact with the thread, that relatively easily breaks, or makes unreliable contact, especially after repeaded dis- and reassembly. There is a small vibrator and a tilt switch. The latter is used to power down the unit when no movement is detected for about 4 minutes to conserve power.

TODO: Schematics, document protoccol.

4 Hack: Disable the 3-minute auto-shutdown timeout

A simple modification is replacing the tilt switch in the shock unit by a slow (0.01 Hz to 10 Hz) Oscillator to disable the 4-minute auto-shutdown timeout.

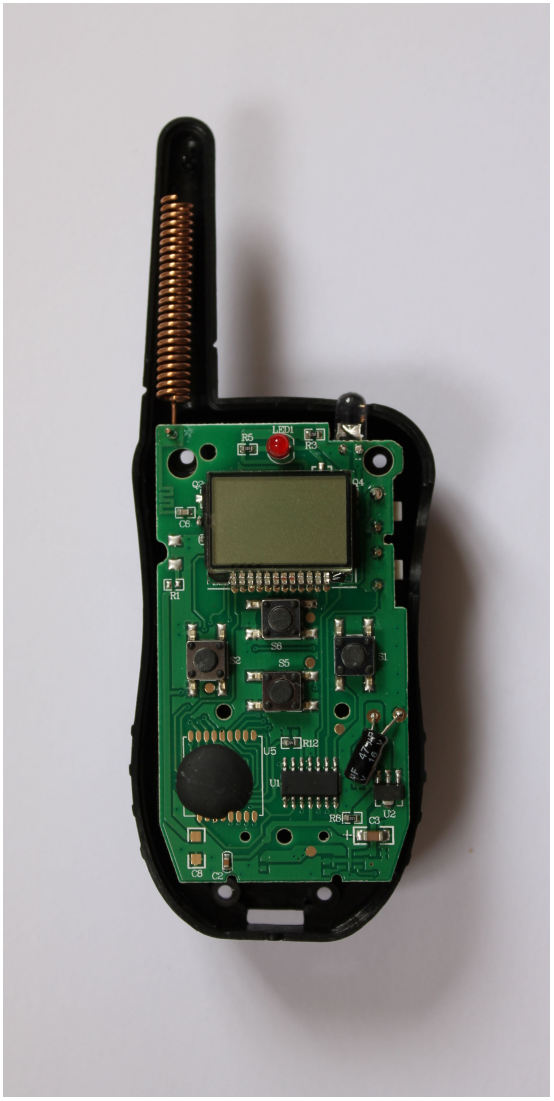

Figure 1: Disassembled remote control

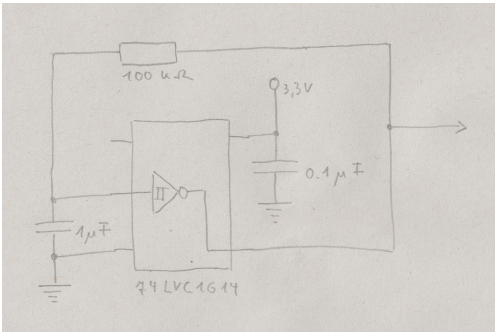

Figure 2: Oscillator for the hack to disable the auto-shutdown timeout

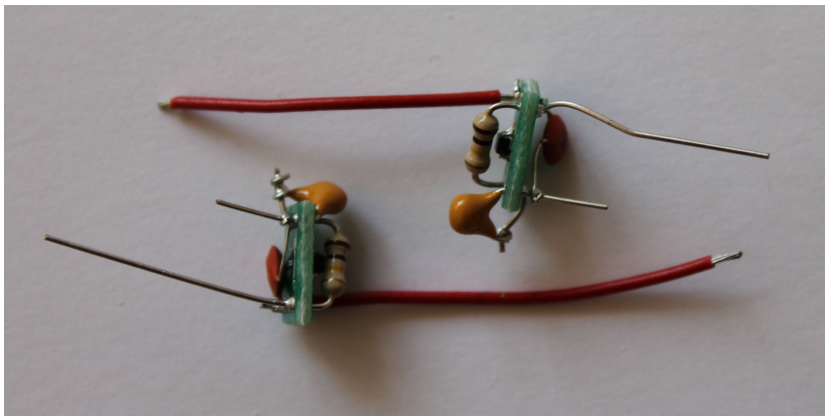

Figure 3: Two assembled oscillators for the hack to disable the auto-shutdown timeout

Obviously, this hack increases power consumption; typical NiMH batteries will be drained in about two days, so after applying this hack the batteries should always be taken out of the shock unit when the shock unit is not used for a substantial time.

The oscillator can be built from just three small components: A 74LVC1G14 inverting Schmitt-trigger buffer, a 1 µF capacitor and a 100 kΩ resistor (see Figure 2). To increase reliability a 0.1 µF capacitor is used to stabilize the power supply. Using wired parts for the passive components and SOT-23-6 breakout board results in a hand-solderable, small oscillator (see Figure 3) that fits into the shock unit.

The tilt switch should be removed carefully, to avoid breaking narrow traces on the PCB. After then testing the oscillator (see Figure 4), the oscillator can be soldered in the place where the tilt switch was (some isolating tape on the oscillator can help prevent short-circuits); power is supplied via a wire from the other side of the PCB (see Figure 5).

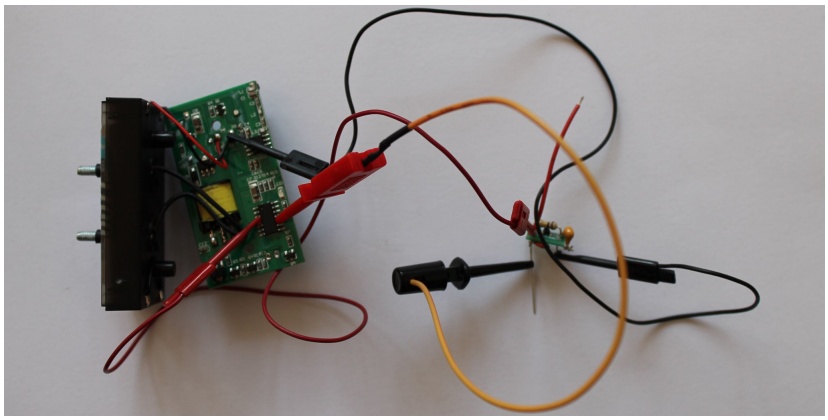

Figure 4: Testing the hack to disable the auto-shutdown timeout

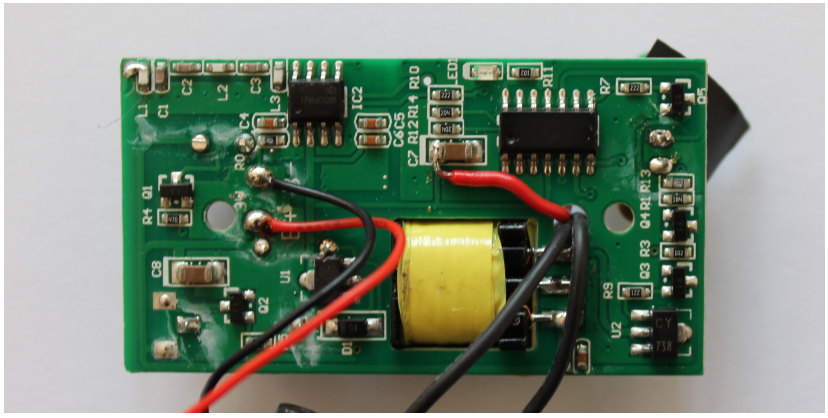

Figure 5: Supplying power to the oscillator