

## UNSCREWING THE UNKNOWN

There is a certain pleasure in opening devices for the first time and taking a look at to what's inside. In almost all cases - even when the product seems to be dead, broken or merely obsolete - many of the parts inside are fully functional..

In this intensive workshop students will learn to open and 'read' different kinds of known electronics products. Then, they will be taught the basic steps and tools necessary to be able to make a unique new device.

Furthermore, students will be learn to use their creations to trigger actions on a computer - and even control devices from the computer - thanks to a small pre-programmed open-hardware microcontroller with "ready to go" multiplatform, open-source software.

### Day-1

presentations / introduction.

Examples of classic "hackable devices"

Planned obsolescence

Electricity: Alternate current, Direct current,

Basic concepts: Intensity, voltage, resistance (ohm's law)

basic safety rules..

Public Dissection / screening of some pre-opened unscrew-friendly devices.

the "discrete component" layer: resistors, capacitors, transistors, diodes, coils, transformers & more..

Unscrewing "party"

### Day-2

Deeper analysis into our personal chosen devices

Soldering: howto..

cables, switches, buttons, potentiometers, battery packs..

the "getting started" set of tools: Screwdriver, pliers, scissors, short tester, soldering iron, helping hands, crocodiles,

Extended set: Oscilloscope, regulated power supply, multimeter..

Computer interaction: input/output, warnings..

### Teacher:

Servando Barreiro studied electronics and sound among other things. Later in Berlin he participated in many underground electronic workshops and realized several interactive electronic art pieces like the ones showed in the links below.

### Audience:

Workshop suitable for hackers, makers and people in general with curiosity about how the electronic objects that surround us everyday work and which are the basic parts that form them. Just with the aim of making an artistic project, being able to fix some of your beloved machines or just because of pure curiosity..

### Links:

<http://servandobarreiro.es/?p=182> (telex musical)

<http://servando.teks.no/?tocata> (Turntable that just spins when you dance)

<http://servando.hotglue.me/turntabl/> (Interactive "digital" turntable with 60's touch)

