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Controlling AC-Loads with your LaFonera

I found a nice way to control any AC-load with your LaFonera.

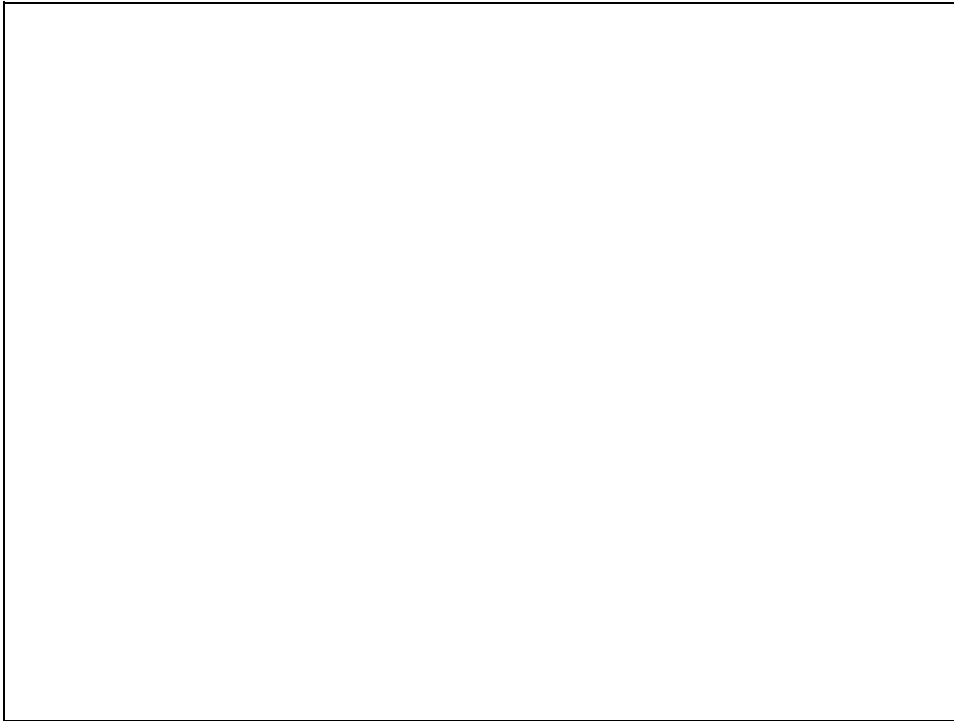
What you need:

- some technical skills to build this modification
- some electronical stuff
- programming skills to control your modification

I will show you some pictures of the build process, maybe we could create a controlling application together.

Hardware

Ready to start



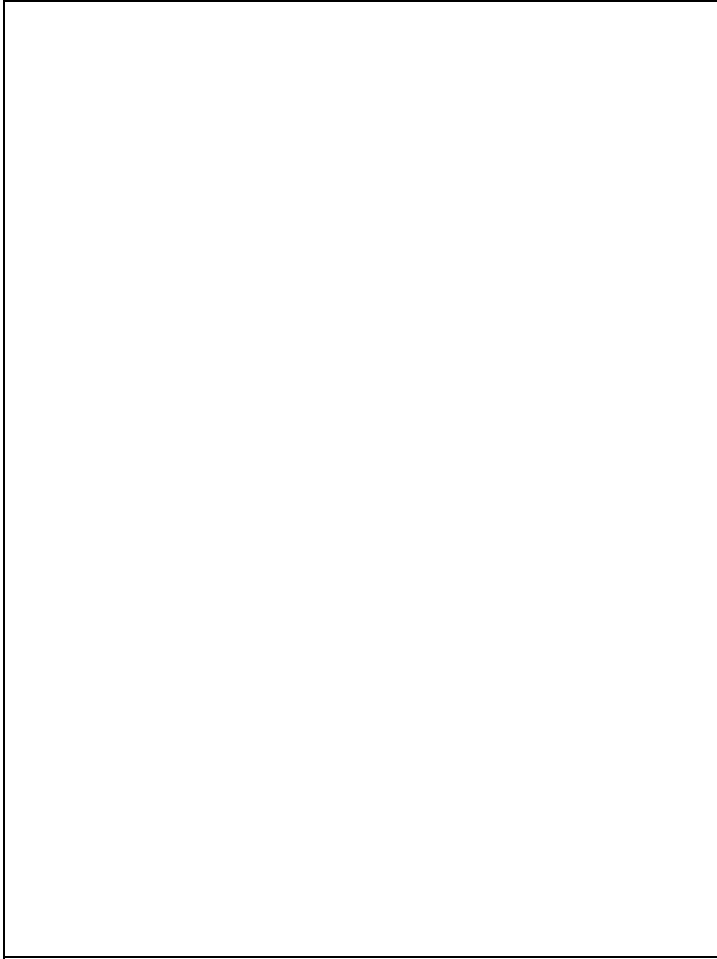
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The board is powered and tested



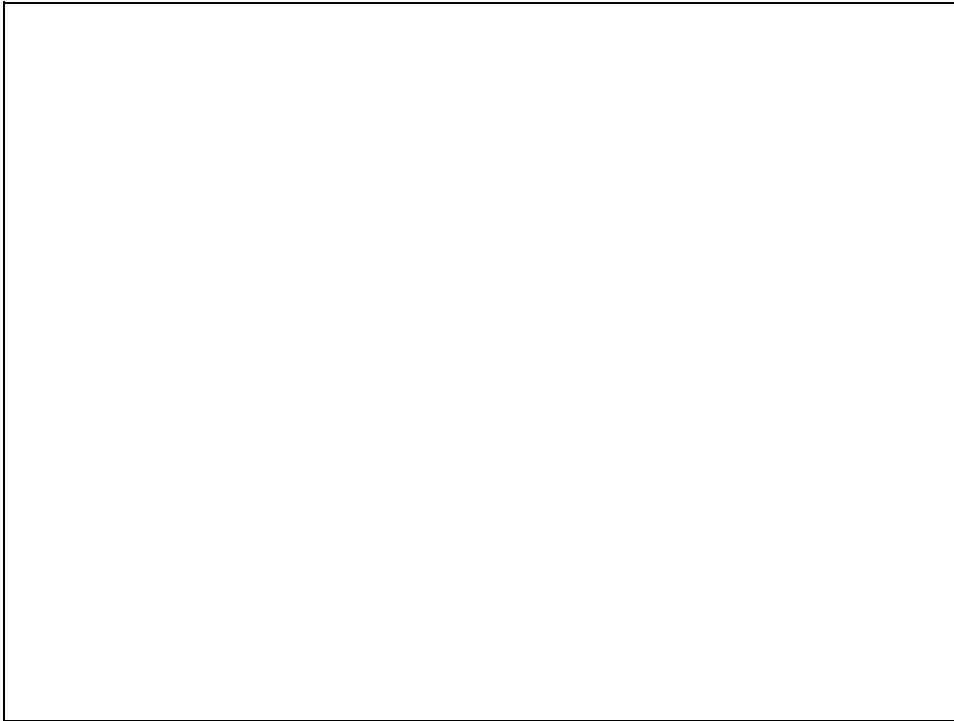
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Semi assembled board



[view in high resolution](#)

"converting" a 14 pin socket into 2 6 pin sockets



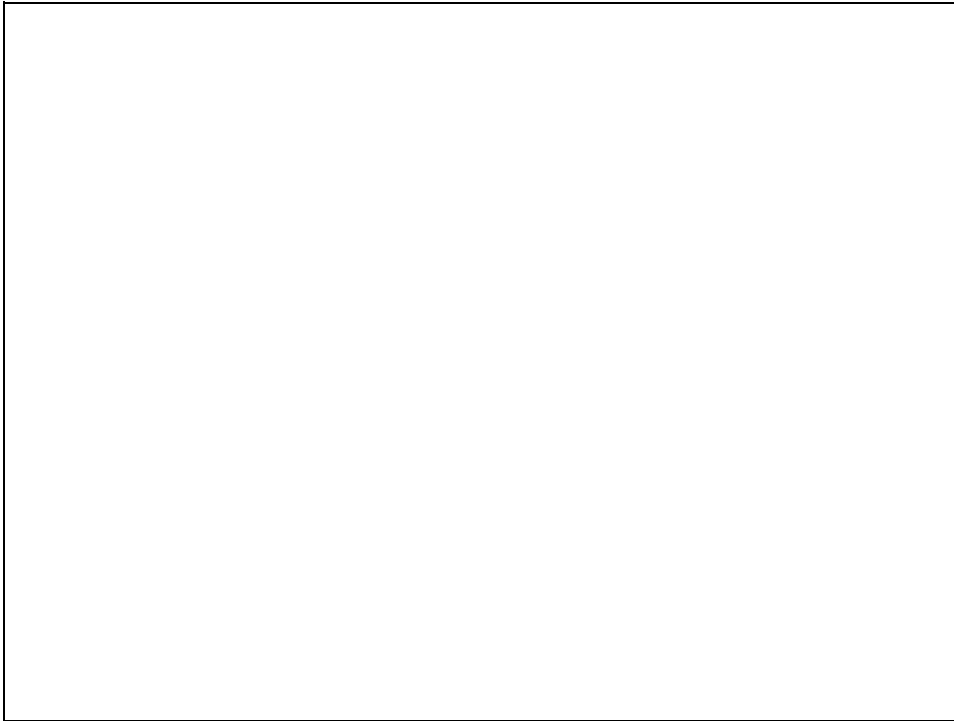
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Triacs, photo triacs, leds



[view in high resolution](#)

GPIO connection details



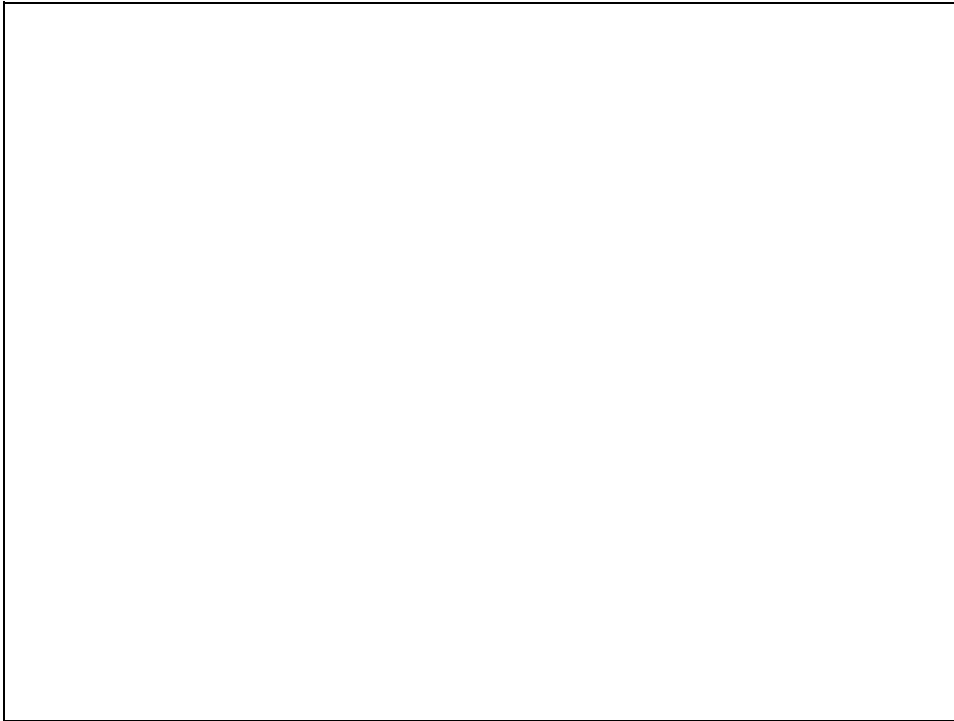
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on the fly schematic diagram of the power interface and la fonera with wires connected to SW1 GPIO



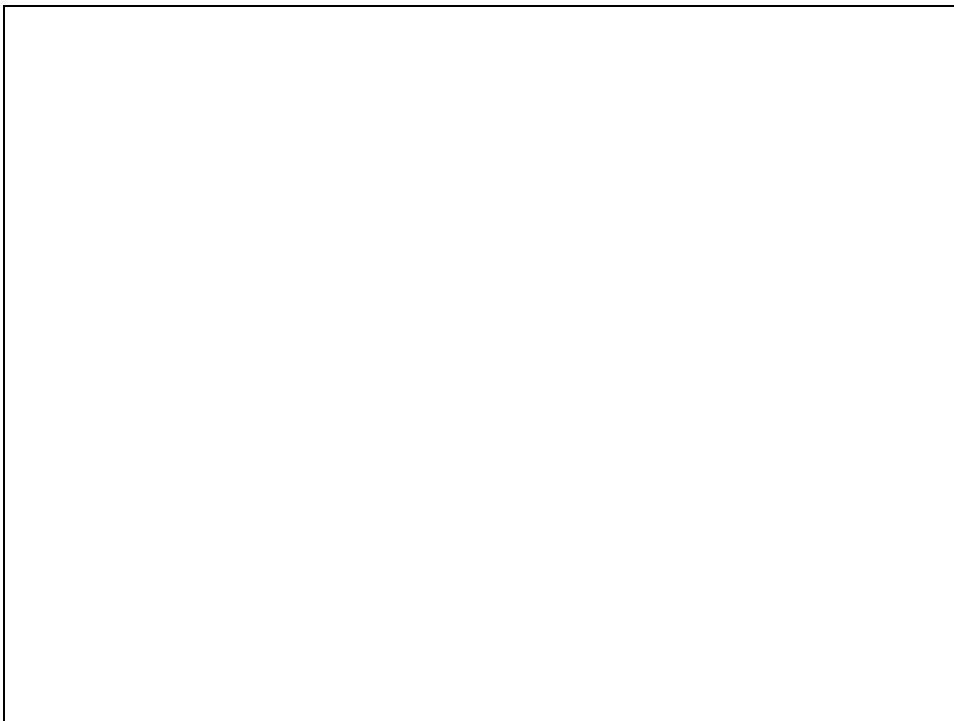
[view in high resolution](#)

another view



[view in high resolution](#)

This fonera (cron)job :-) now is to control the lawn irrigation valves



[view in high resolution](#)

La fonera housed in a water proof box



[view in high resolution](#)

Software

You should find some possibilities to control this modification...

Cron Job

e.g.

Web-Interface

A starting place is to look at this users scripts:

[LaFonera_Hardware_Controlling_AC-Loads_via_webinterface](#). Note that both these users are using the built-in GPIO calls - no magic here.

Example:

- # turn gpio pin on
- echo 1 >/proc/gpio/3_out
- # displays the status of the switch, 1 on, 0 off
- cat /proc/gpio/3_out
- # turn gpio pin off
- echo 0 >/proc/gpio/3_out

Command Line

Example:

- # turn gpio pin on
- echo 1 >/proc/gpio/3_out
- # displays the status of the switch, 1 on, 0 off
- cat /proc/gpio/3_out
- # turn gpio pin off
- echo 0 >/proc/gpio/3_out

The original Idea

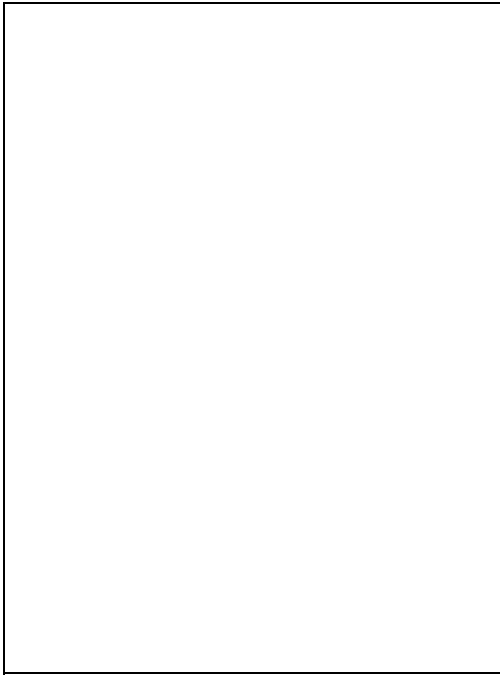
came from <http://www.flickr.com/photos/zef67/388449098/in/set-72157594533848196/>

Other Circuits

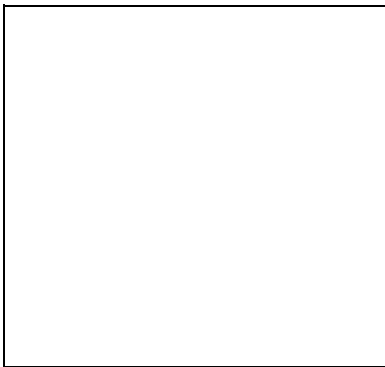
The easiest way to do this is with a solid state relay (SSR). Please note, relaying DC is VERY DIFFERENT from relaying AC.

Note, there are mechanical relays that can do DC or (BE CAREFUL, ONLY IF YOU KNOW WHAT YOU ARE DOING) AC. SSR's can only do AC, and will not switch DC current.

The diagram below shows how to connect an AC load, a AC LAMP to a solid state relay, and the relay to your FON. Substitute the FONs i/o pins for "pin 12" in the picture.



Here is an example of a solid state relay. It can be purchased directly from Parallax[1].



--Sboger 09:44, 2 October 2007 (CEST)

this page was originally made by wildblue!