CI-V based remote antenna switch

Summary | Block diagram | Usage | Configuration | Download & photo

INFO REQUIRED TO BUILD YOUR OWN UNIT

Here you can find all informations to build the unit (remember: before starting with soldering iron, please take time to review all documents)

HARDWARE

There are files for building printed circuit (I used FidoCAD). Please note that I build PCB using components I found in my drawer so you could find difficult to get exactly the same ones.

- Diagram layout for control box and external unit
- Power supply PCB
- Keypad PCB
- CIV Interface PCB
- Output interface PCB
- Remote BCD decoder PCB

SOFTWARE

Current Version: **1.4**

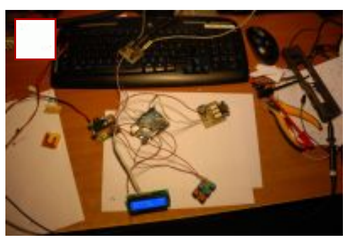
- civ_src_1.4.zip: Arduino sources to be loaded using Arduino development environment.
- lists.zip: Lists of all variables and functions, plus EEPROM map
- Functions map: to display how functions interact each other
- Functions' flowcharts: I wrote this one to remember myself the logical flow of the program (if it happens to look at it after long time, they are extremely useful to quickly recover how the device works)

READ CAREFULLY: Of course, all documents have been written after a long time from the end of the project (any good technician hates writing documentation): when I did this job, I discovered some errors within both the logical flow as well as in coding. Often they are "missed optimization" (like using big variables to store small data), but there are cases where I found a real bug which could block the device (this should be the worst effect). After a deep examination, I found that these bugs should rarely appear and, in such cases, a simple power cycle will be enought to recover normal operation (the old-but-good IT solution of "restart").
In other word, bugs exist but should not affect usage of the control box (I'm using this software version for one year and just in few cases I had to restart the unit - please note that I normally completely "power off" my shack when I stop doing hamradio).

Of course, I resolved bugs on the "on going" version of the software, but for now I don't need to upgrade it since it works flawlessly: please note that docs are aligned to the current software version, so in files you will probably notice those BUGS! My plan is to have documents really describing the current software release, even in case of bugs.

Special note for United Kingodm ham radio: When I was near the end of writing down this pages, I started reading about the "Big Ben" tower and clock (I was comparing the "real" one with the one in CARS 2 Film) and found that non UK living people cannot visit the tower and the clock. Being mainly interested in the mechanical part, I was frustrated being unable to visit it (I'm not currently plan a trip in London, but for sure it's one of cities I'll visit in future). It sounds strange that a stranger can visit UK parliament even during sittings and not the "clock".
My first thought when I read this on the official webpage was "Why don't do the same for all Italian heritages? And why I should share my projects with so officious people? OK, will remove all files for this project from web and send them only to non-uk hamradio." But this wuold really go againist my phylosophy: knowledge **must** shared to everyone and not be available just for few (as it was during middle ages). So I resigned this idea and leave files on the web.
I've just a request for UK hamradio landing on those pages and willing to build the switch themselves: please send me an email if you know why non-uk people can't visit the tower and the clock (the most interesting part for a technician like myself).

SOME PHOTOS.....



During tests and deployment..

Control box modules

LCD detail

The control box

The remote unit

<<< Configuration <<<