

Forum:[Hack Forums](#)

Thread: [\[Tutorial\] TV-Go-Sleep + TV Be gone sketch](#)

slober - October 28, 2013, 4:55 pm

TV-Go-Sleep

what is TV-Go-Sleep

Funny moments

Wiring Explained

Coding

how does it works?

Encountered problems

Enjoy

Updated code for TV-be gone

what is TV-Go-Sleep

TV-go sleep is just like the TV-B-Gone a type of simple universal remote control device for turning off a large majority of the current available brands of television sets.

TV-go sleep is based on the TV-B-gone the test mode in the TV-go sleep has the same function as the TV-B-Gone

Background information:

Quote:Mitch Altman has run workshops that allow participants to build their own TV-B-Gones using Adafruit Industries' micro controller-based mini-POV kit. Around January 2008, Adafruit Industries released a kit to build an open source TV-B-Gone

another name for the TV-be gone is Infrared DOS ?

you can encounter some problems in this build but overall if you don't mess things up it should be pretty easy

Funny moments

Quote:<http://www.youtube.com/watch?v=eHpFCVVrsNM>

ofcourse if you make a device like this you can have your little moment of fun at the local stores,fitness,....

Wireing Explained

[img]http://i2.wp.com/makezineblog.files.wordpress.com/2013/06/tv-go-sleep_schematic.jpg?resize=620%2C465[/img]

What do you need?

8 x 470/560 ohm resistors

1x 10K ohm resistor

1x 7 segment led display (optional if you alter the code but definitely recommended for your first build)

1x push button (or 2 wires just somekind of button ^^)

1-???x IRleds

1x 33-47 ohm resistor

arduino (duh...)

jumper wires

breadboard

first check your components resistors aren't polarized so they should be fine
the 7 segment display can be a bit harder to figure out there are 2 big types of 7 segment displays, the common anode and the common cathode be sure you have the right one

[img]<http://www.thelearningpit.com/lp/doc/7seg/7segLed.gif>[/img]

if you have the common cathode you're fine just wire it like the picture above

if you have the common anode you need to wire the pin in the middle to +5v instead of gnd

The IRleds are also polarized the short lead goes to gnd the longer lead goes to the resistor and the resistor goes to pin3

[img]http://www.societyofrobots.com/images/electronics_led_diagram.png[/img]

the - or cathode also has a flat side.

The pushbutton

Quote:Arduino:

When the pushbutton is open (unpressed) there is no connection between the two legs of the pushbutton, so the pin is connected to ground (through the pull-down resistor) and we read a LOW. When the button is closed (pressed), it makes a connection between its two legs, connecting the pin to 5 volts, so that we read a HIGH.

Coding

if you're absolutely sure you wired everything nice clean and checked everything again connect the

arduino with your computer and upload the code

Code

[url=http://cdn.makezine.com/make/35/Universal_Sleep_Timer_Arduino_Code.zip]http://cdn.makezine.com/make/35/Universal_Sleep_Timer_Arduino_Code.zip[/url]

everything should work directly out of the box you shouldn't encounter problems here

how does it works?

Quote:When you turn on the power switch, the decimal point will flash a few times, and then the display will read "9."

This corresponds to a sleep delay of approximately 90 minutes.

Each time the button is pushed, the sleep delay is shortened by roughly 10 minutes.

If you press and hold the button, the TV-Go-Sleep goes into test mode, and it will begin sending all of its "off" codes.

Place the device where you plan to leave it for the night, and run the test to verify that the TV turns off.

If the TV is still on when the test is finished, try realigning the device or moving it closer to the television set.

If the TV goes off and then comes back on, it must be responding to 2 different codes being transmitted from the timer.

If that should happen, run the test again, but be ready to press the button when the TV turns off. This will stop the test at that point. Later, when you're asleep and the timer runs down, the device will only send codes until it reaches the point where you stopped the test.

If you can't get the TV to turn off, then its code may not be in the TV-B-Gone library. Check back at righto.com for updated libraries.

Thanks to Donal Morrissey for showing how to put the Arduino into a low-power mode (makezine.com/go/morrissey).

And special thanks to Ken Shirriff, who created the Arduino TV-B-Gone code (makezine.com/go/shirriff) that's the backbone of this project.

Encountered problems

only one i connected everything like a brain dead zombie without checking what type of 7 segment i had 1 wire wrong :) wired it for a common cathode the segment i had was a common anode

Enjoy

so enjoy it ? you now have you're own TV-Go sleep

if you update the code for the tv-be gone you don't have to deal with the test mode

Sources used:

Spoiler ([Click to View](http://en.wikipedia.org/wiki/TV-B-Gone))<http://en.wikipedia.org/wiki/TV-B-Gone>

<http://makezine.com/projects/make-35/tv-go-sleep-universal-timer/>

<http://www.thelearningpit.com/lp/doc/7seg/7segLed.gif>

<http://arduino.cc/en/tutorial/button>

https://www.google.com/search?q=pull+down+resistor&source=lnms&tbm=isch&sa=X&ei=2vVuUqfeDMGnhAfPrYHwAw&ved=0CAkQ_AUoAQ&biw=1366&bih=624

29/10/2013 EDIT

Updated code for TV-be gone
the code in on the pastebin site is updated for tv-b gone fun i removed all the unnecessary code from the tv-go sleep sketch just press the button and watch it go ^^

You still need the libraries mentioned above

<http://pastebin.com/C3eHWF9x>

Display layout for <https://www.sparkfun.com/products/8546>

```
Code {1,1,1,1,0,0,1}, // 1
{0,1,0,0,1,0,0}, // 2
{0,0,0,0,1,1,0}, // 3
{1,0,0,1,1,0,0}, // 4
{0,1,0,0,1,0,0}, // 5
{1,1,0,0,0,0,0}, // 6
{0,1,0,1,1,0,0}, // 7
{0,0,0,0,0,0,0}, // 8
{0,0,0,1,1,0,0} // 9
};
```

/*

First number is A second B third C etc...

i have a common anode so i need to pull them down for a "light"

*/

slober - October 29, 2013, 1:50 pm

(Oct 29, 2013 01:26 PM)Visual Basic. Wrote: [\[CITE\]](#) This is awesome. i have most of the components and i would love to make this thing but could you do a video on this because i am very bad with thos wiring things.

forget about the 7 segment display and use the code at the end of the tutorial (pastebin link) i combination with the libraries this should save you allot of wiring
also you could just skip the 3 ir leds 1 will do just fine =)

i shall try to make a nice graphical wiring diagram and maybe a video if i can find my tripod you can always pm me with further questions

<http://prntscr.com/20m1lo>

Spoiler [\(Click to View\)](#)

thumbs up for my pro drawing skills ^^

[img]<http://img15.imageshack.us/img15/7819/oeqf.png>[/img]

the bare minimum you need if you use the pastbin code

slober - October 30, 2013, 10:29 am

the coding is just the same ;)

first you download the zip file

http://cdn.makezine.com/make/35/Universal_Sleep_Timer_Arduino_Code.zip
http://cdn.makezine.com/make/35/Universal_Sleep_Timer_Arduino_Code.zip

after that just load it into the arduino program

then just delete everything in the universal_sleep_timer_arduino_code sketch and replace it with the code found on the pastebin site <http://pastebin.com/C3eHWF9x> load it into the arduino uno and you're done wait 6 sec then just pres the button for a short time and point it directly at you're television