

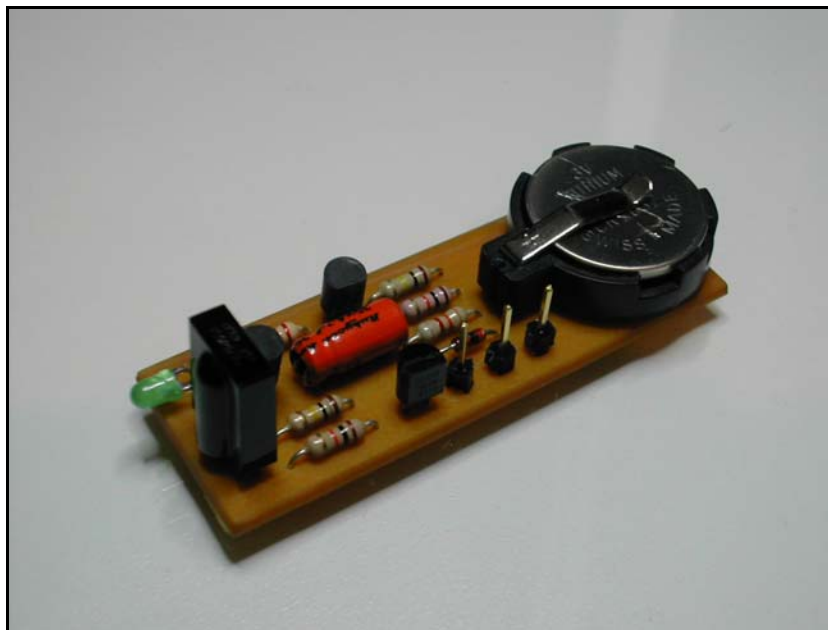
# Billy's Plug

## An Improved Infrared Receiver with Status LED

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This is the latest version of the Improved Infrared Receiver with Status LED which can control any desktop PC with an ordinary remote control. The project comes along with a small PCB in order to save space. It connects to the serial port as stated in the schematic and uses the freeware **Girder** ([www.girder.nl](http://www.girder.nl)) software together with **Igor's Plugin** ([www.cesko.host.sk/girderplugin.htm](http://www.cesko.host.sk/girderplugin.htm)) to send commands to the PC. The potential uses of this device are countless (control MP3 players, CD and DVD players, radio and TV cards, even move the mouse cursor and shutdown the computer remotely !). Again, note that **any** ordinary remote control can be used by training Girder to learn its signals !



### Parts list

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R1	3.3K 1/4W	R4	10K 1/4W
R2	10K 1/4W	R5	100K 1/4W
R3	100K 1/4W	R6	220 1/4W

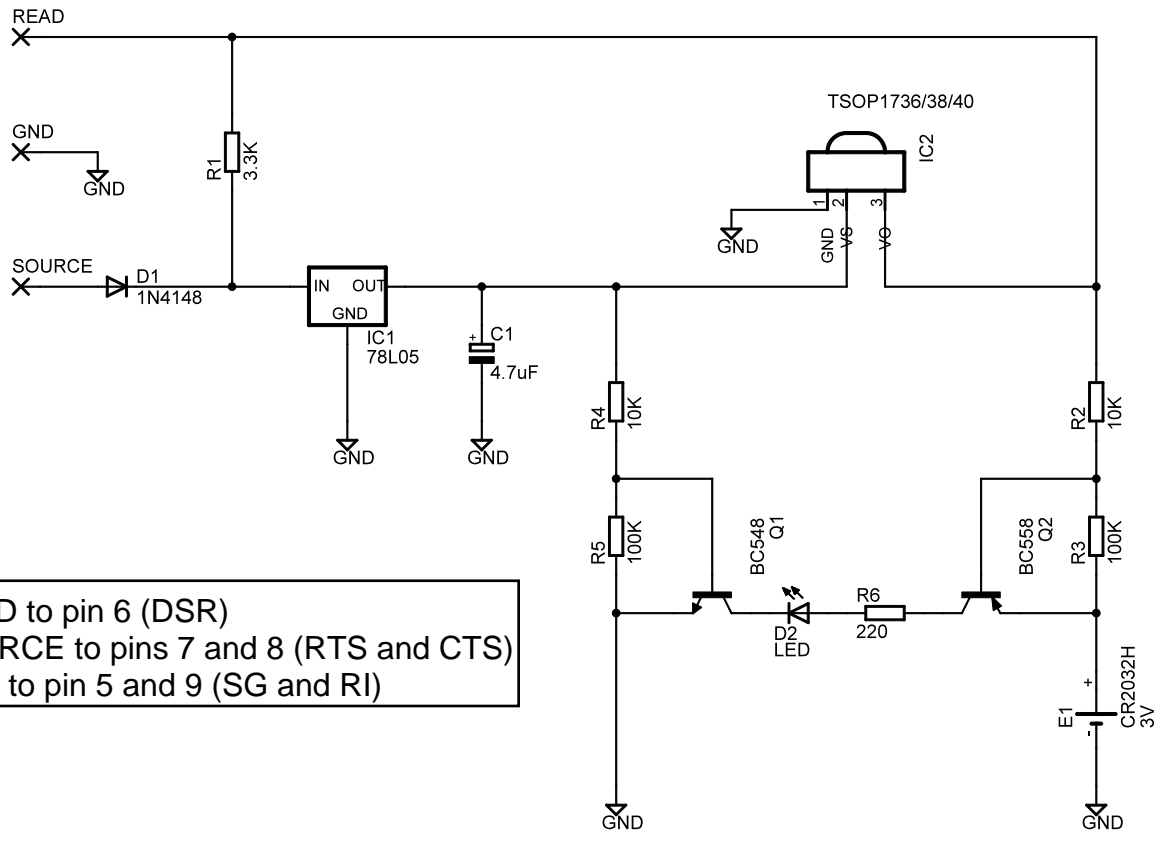
D1	1N4148	Q1	BC548
D2	LED 3mm	Q2	BC558
C1	4.7uF/16V Electrolytic		
IC1	78L05		
IC2	TSOP 1736/38/40 (may work with Siemens SFH506xx receivers also)		
E1	CR2032 3V battery + PCB base		
Misc	Three pins to connect the serial cable (optional)		

The improvements of this project compared to the ones already published in the internet is that it uses regulated power for the infrared receiver module (TSOP 17xx), has improved sensitivity (worked at a distance of about 10 m), and features a status led which is powered by an external battery source and is driven by two transistors. Upon signal reception, the led blinks to provide a visual feedback to the sender.

The PCB features narrow tracks (16 mil) so special care should be paid during the construction. The 4.7 uF capacitor is bent towards the board in order to save height if the circuit is to be placed in a small plastic box.

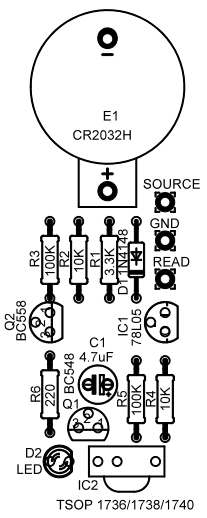
The Girder software for this project was preferred because it is first of all freeware, it is stable and customizable, features a large number of commands and supports user plugins. It is a bit difficult to learn at first, but after a while it deploys a great number of possibilities that other programs (even commercial ones) lack. Nevertheless, with the right corrections (pin changes) this project may be used with other software (WinLIRC, IRAssistant, Miriam, PCRemote) but no such testing has been carried out yet. This is maybe a good point for further search.

# Schematic



READ to pin 6 (DSR)  
 SOURCE to pins 7 and 8 (RTS and CTS)  
 GND to pin 5 and 9 (SG and RI)

# Silkscreen



# PCB (Mirrored)

