

PICKit2 Clone 5V/3.3V

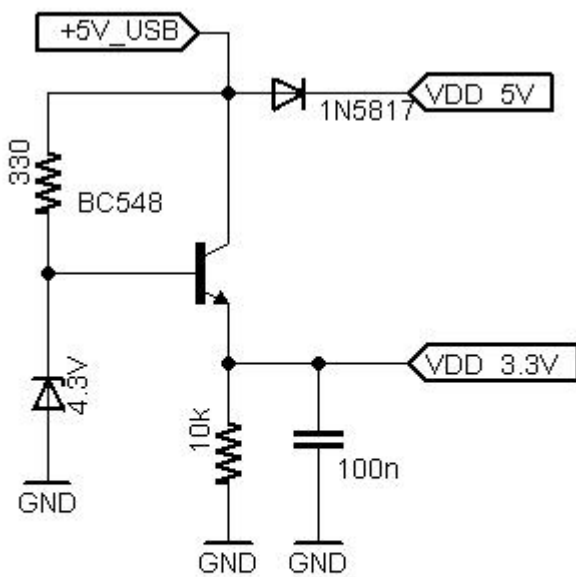
Posted on [September 8, 2010](#) by [Suky](#)

With the friend [Felixls](#) were studying the functioning of the hardware PICKit2 to determine in what way to make a clone of low-cost microcontroller-compatible components accessible to 3.3V (PIC18_j_, PIC18_k_, PIC24, dsPIC33F, PIC32).

Based on the original you can see who has the necessary electronics to detect if the plate is connected to the PIC which has its own power supply (VDD Target) or if you need to feed it with the programmer, if it is the latter case, the voltage is PWM controlled by a circuit containing a rail to rail operational amplifier.

But to clone this behavior given the premises of low cost and availability, there is the inconvenience of replacing the AO for general operating purposes, given that it does not have good control over the tension and even worse if the USB port does not provide a proper tension.

A simple workaround is to directly use the PIC Microcontroller USB voltage of 5V and make a source to generate 3.3V for the other PICs / dsPICs.

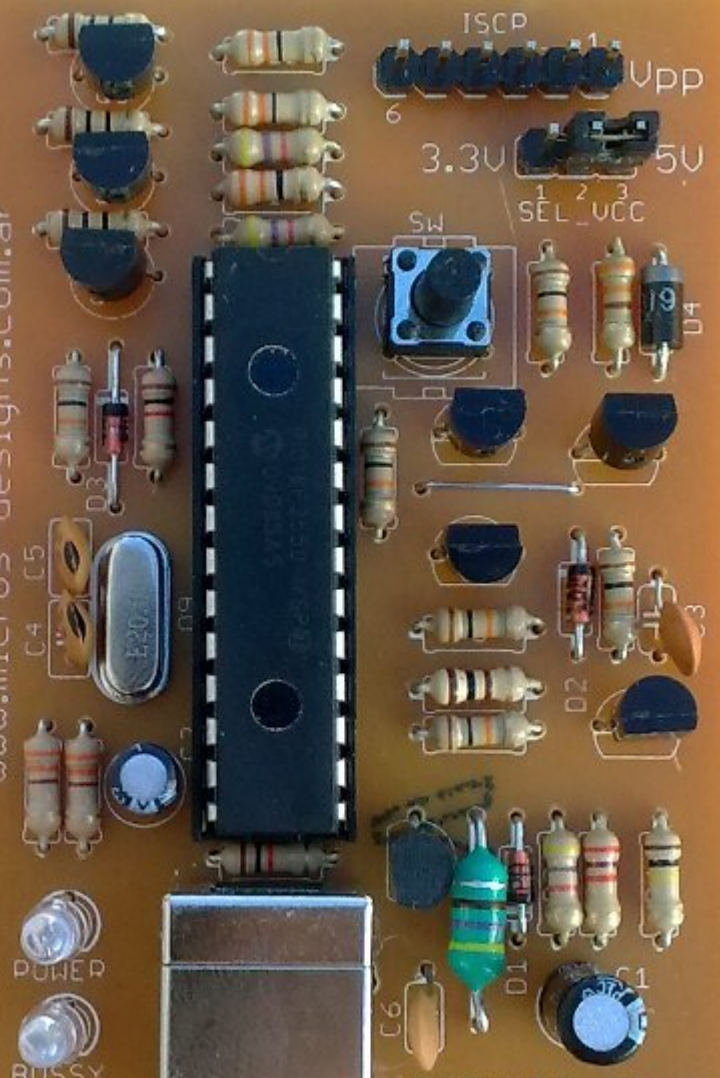


Fuente 3.3V. Sin carga Vmax: 3.5
Con carga 100mA, 3.2V

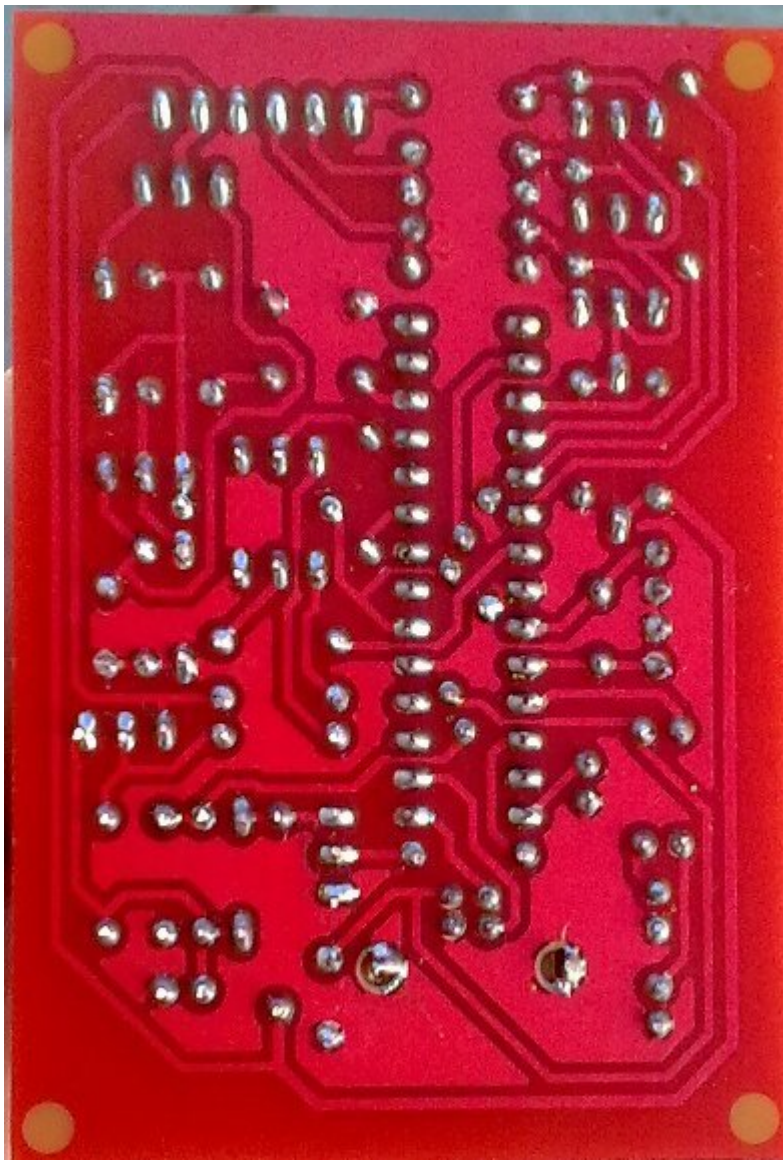
V_USB=4V, con carga 100mA, 2.7V

PCB Design:

www.ucontrol.com.ar
www.micros-designs.com.ar

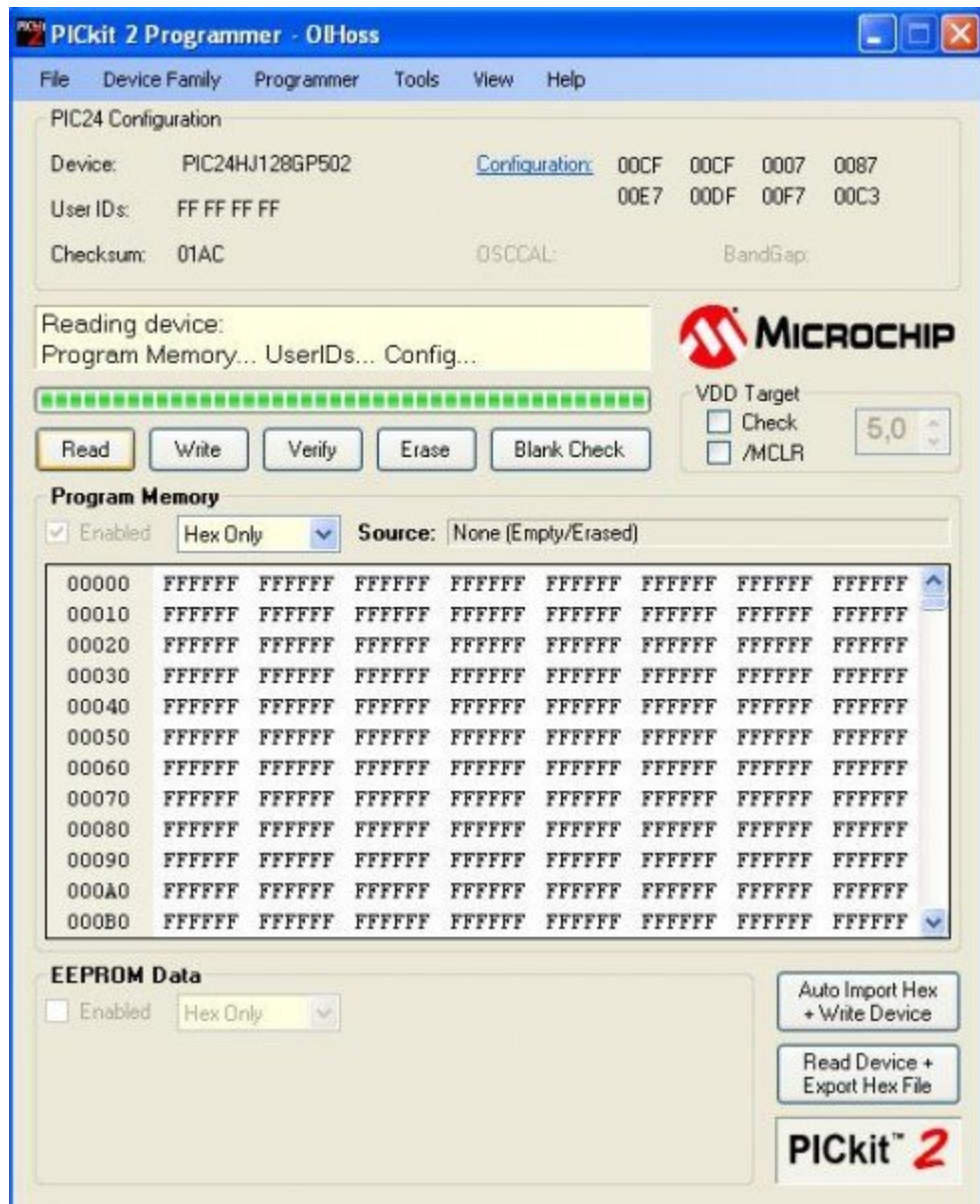


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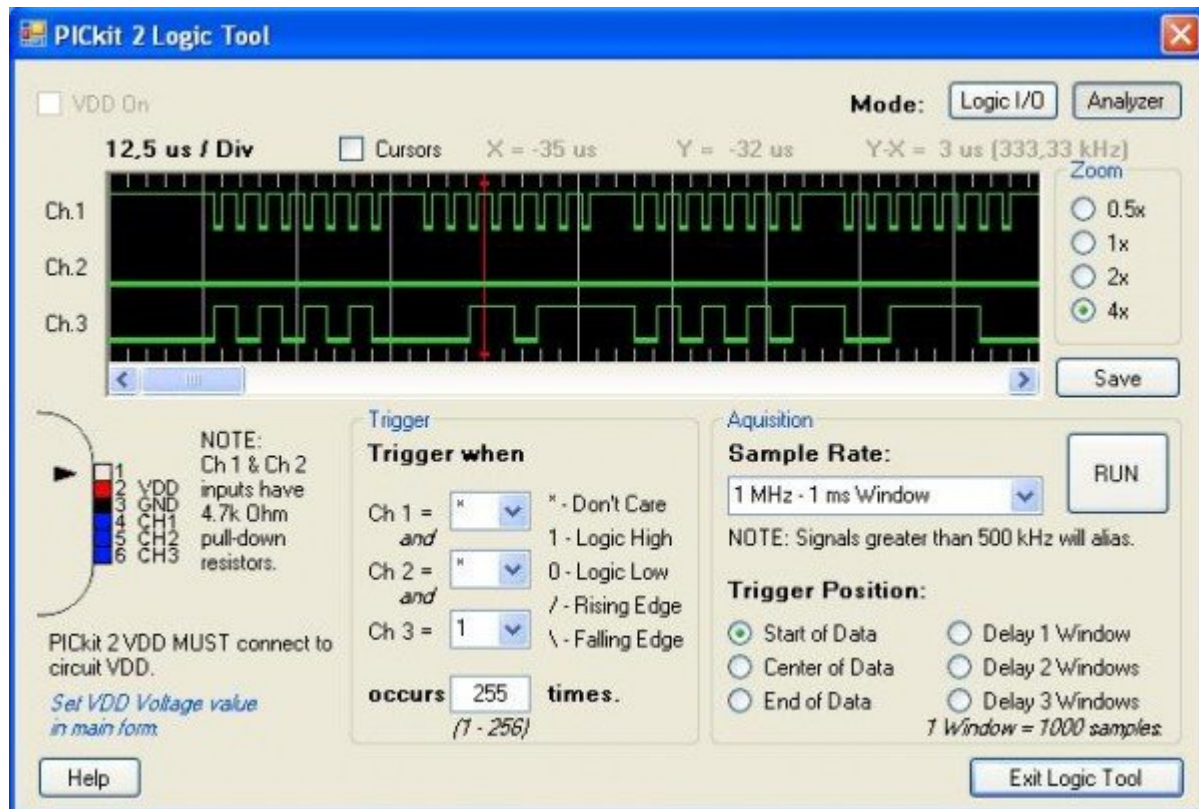


Note: You can find BC5xx transistors that do not correspond with the silkscreen, can check their pin-out with a multimeter. I in the development of this plate such luck>: (

Proband with a PIC24:



Testing logic analyzer :



List of supported devices: [PICkit 2 Device Support List](#)

Downloads:

[More complete schematic PCB](#)

[Materials list](#) sent by Giorgio from Italy, thanks! 😊

[Hex for the PIC18F2550](#)

[Software for recording, logic analyzer and test USART](#)

They can show developers that have developed in the forum! [HERE](#)