OmegaVISP

Top side of OmegaVISP

> ⓘ **Archived Project**
>
> This is an old project, and probably no one currently at Omega Verksted knows anything more about it than what is provided on this page. You can try to recreate it if you want, but the documentation is provided as-is and it may be outdated.

Top side of OmegaVISPThe Omega Verksted In System Programmer is a tiny USB programmer for Atmel AVR microcrontrollers. The OmegaVISP is designed to be small, cheap, easy to use and open source. It works as an STK500, which means it is plug-and-play when using AVR Studio 4. Everything needed to make your own OmegaVISP is available on this page.

Contents

Features

The OmegaVISP has the following features:

- Connect to AVRstudio 4
- Enter and leave programming mode
- Read signature
- Read fuses
- Write fuses
- Read flash
- Write flash
- Read lockbits
- Write lockbits
- Read eeprom
- Write eeprom
- Erase chip
- Calibrate RC-Oscillator
- Set ISP-frequency

Unsupported Features

The following features have yet to be implemented:

- Connect to AVRDude
- Firmware upgrade via bootloader

Supported Devices

Theoretically, it should work on all ATtiny and ATmega AVR devices. It has been tested on the following devices:

- ATmega168, ATmega88, ATmega48
- ATmega128
- ATmega32

Repository

The latest version of OmegaVISP can be found in the Git repository. Here you will find the firmware source code, circuit diagram, pcb layout and gerber files.

Bill of Materials

File:OmegaVISPinUse.jpg
OmegaVISP in use, with a 6pin ribbon cable connected to ISP pins

The following list contains the bill of materials for the OmegaVISP. Each component has a link to the product page at Farnell.

- U1: CP2102 USB - UART
- U2: Atmega168 Microcontroller
- J1: MC32604 USB plug
- ISP + Uart: Header 2 row 3x2 + 2x2 Header
- X1: 3.6864Mhz Crystal
- Power, Status: 1206 LED LED
- R1: 10k 0805 Resistor
- R2, R3: 330R 0805 Resistor
- C1: 0.1uF 0805 Capacitor
- C2: 1uF 0805 Capacitor
- C3, C4: 18pF 1206 Capacitor
- RX, TX: 2.54mm 2 pin Jumper

Total cost for 1 is **NOK 94.65**, 10 is **NOK 63.84** (not including shipping and VAT)

PCB

The PCB can be bought from batchPCB. The price per board is **USD 2.72** (not including shipping).

Firmware

The latest compiled firmware can be downloaded from here.

Drivers

The USB - UART controller requires a driver to be installed on MIcrosoft Windows computers, which can be found at the Silicon Labs homepage. Linux systems seem to recognize the device without drivers.