

# In-Circuit Serial Programming with SVOD3

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# 1 Introduction

## 1.1 Disclaimer

**USE THIS DOCUMENT AT YOUR OWN RISK**

**PLEASE BE AWARE THAT ANY INFORMATION YOU MAY FIND IN THIS DOCUMENT MAY BE INACCURATE, MISLEADING, DANGEROUS, ADDICTIVE, UNETHICAL OR ILLEGAL.**

Some information in this document may create an unreasonable risk for readers who choose to use the information. The Author do not take any warranties about the completeness, reliability and accuracy of this information. Any action you take upon the information in this document is strictly at your won risk, and the Author will not be liable for any losses and damages in connection with the use of this document.

## 1.2 Prologue

This How-to will instruct you how to read and write SPI Serial Memory In-Circuit.

## 1.3 ISCP

In-system programming (ISP), also called in-circuit serial programming (ICSP), is the ability of some programmable logic devices, micro controllers, and other embedded devices to be programmed while installed in a complete system, rather than requiring the chip to be programmed prior to installing it into the system.

Typically, chips supporting ISP have internal circuitry to generate any necessary programming voltage from the system's normal supply voltage, and communicate with the programmer via a serial protocol. Most programmable logic devices use a variant of the JTAG protocol for ISP, in order to facilitate easier integration with automated testing procedures. Other devices usually use proprietary protocols or protocols defined by older standards. In systems complex enough to require moderately large glue logic, designers may implement a JTAG-controlled programming subsystem for non-JTAG devices such as flash memory and micro controllers, allowing the entire programming and test procedure to be accomplished under the control of a single protocol.

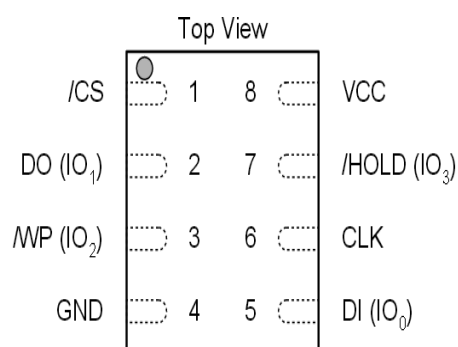
## 2 Preparation

### 2.1 Partlist

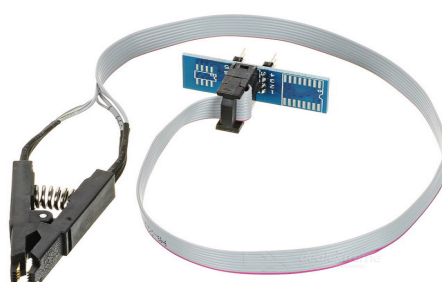
- SOFTWARE
  - Windows7 64Bit**
  - SVOD3 1.0.3.5**
- PROGRAMMER
  - SVODprogrammer ver 3**
- CABLES
  - SOP8 test clip**

## 2.2 Pinout

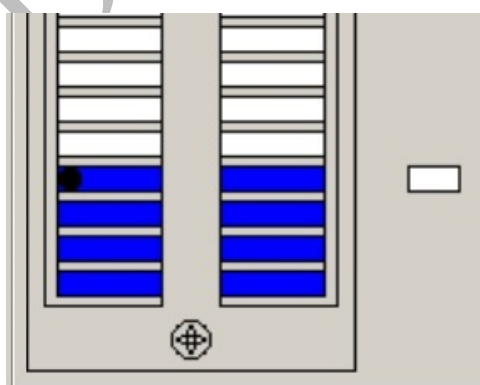
There is a small round dent on every SOP8 package. This dent marks pin 1. If you place the SOP8 test clip check that the red cable is on pin 1. The SVOD3 programmer has a similar pinout, so this is plug'N'play.



**Figure 1:** SOP8 Pinout



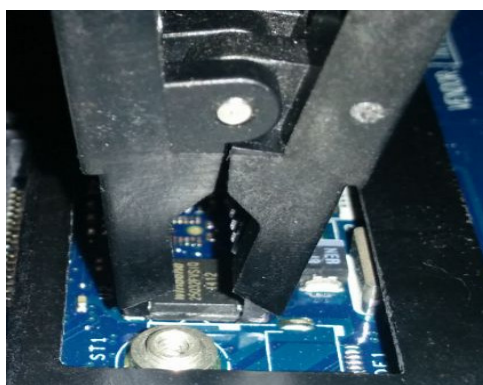
**Figure 2:** SOP8 Test clip



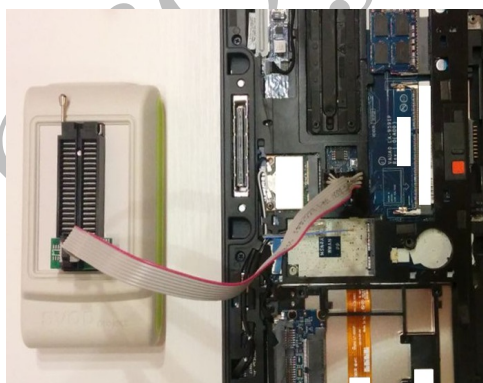
**Figure 3:** Pinout of the SVOD3 programmer



**Figure 4:** SOP8 Test clip inserted into the SVOD3



**Figure 5:** SOP Test clip connected to the serial memory



**Figure 6:** Everything connected properly

### 3 Flashing

The serial memory gets his power trough the mainboard itself. That means we need to connect at least one power source. Mostly on notebooks it works with a fully loaded battery. But sometimes it needs the ac adapter even connected. This is trial and error.

I assume you have connected all the cables correct and a connection can be established!

#### 3.1 Set Mode

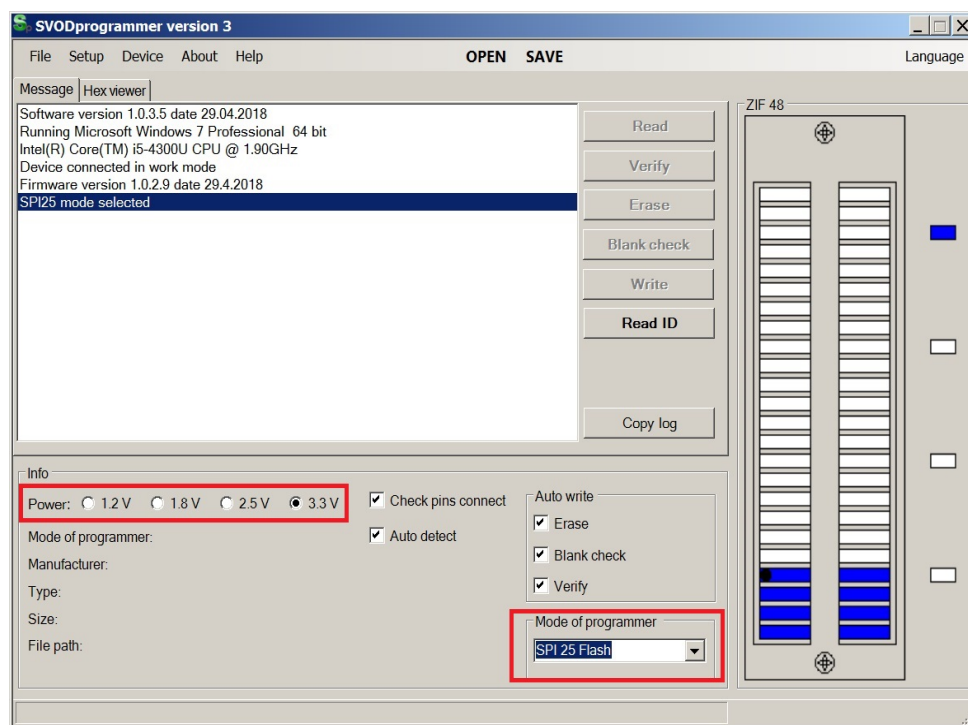


Figure 1: SPI25 Serial Memory

Choose the correct voltage and the SPI25 Mode. The correct voltage is described in the datasheet of the SPI Serial Memory.

### 3.2 Read ID

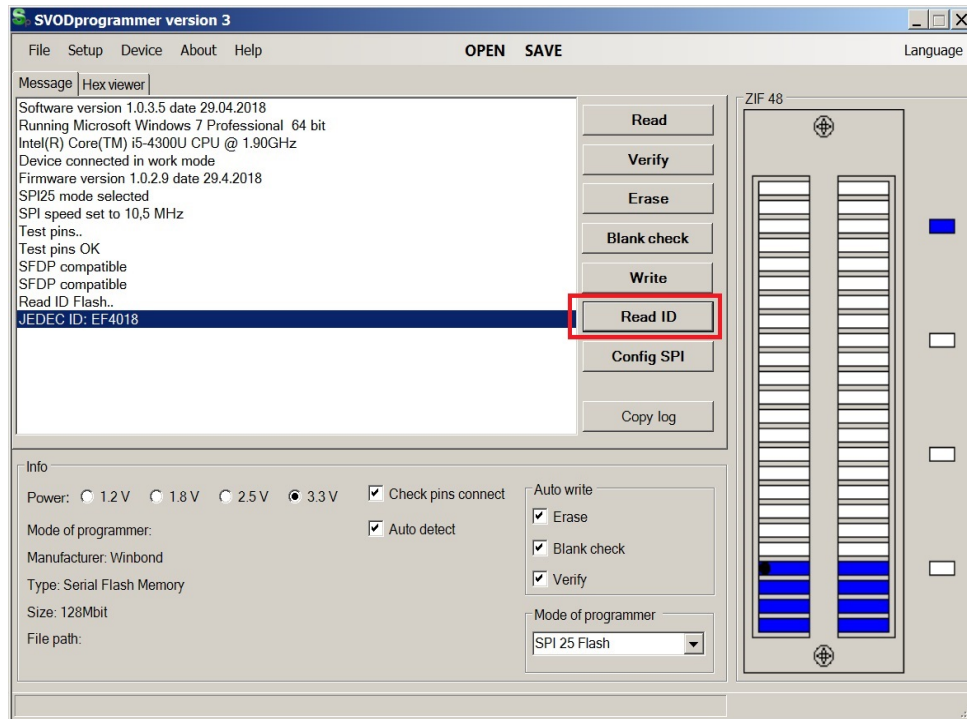


Figure 2: Read ID

Click the Read ID button.

### 3.3 Read SPI Serial Memory

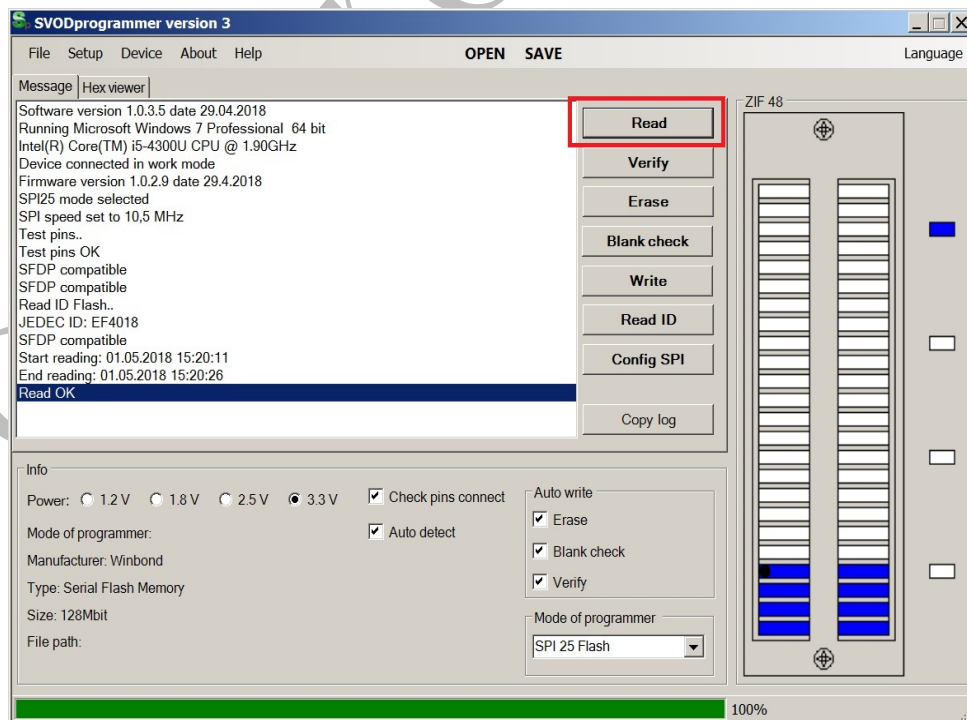


Figure 3: Click Read

Click Read and save the dump to a file.

### 3.4 Write SPI Serial Memory

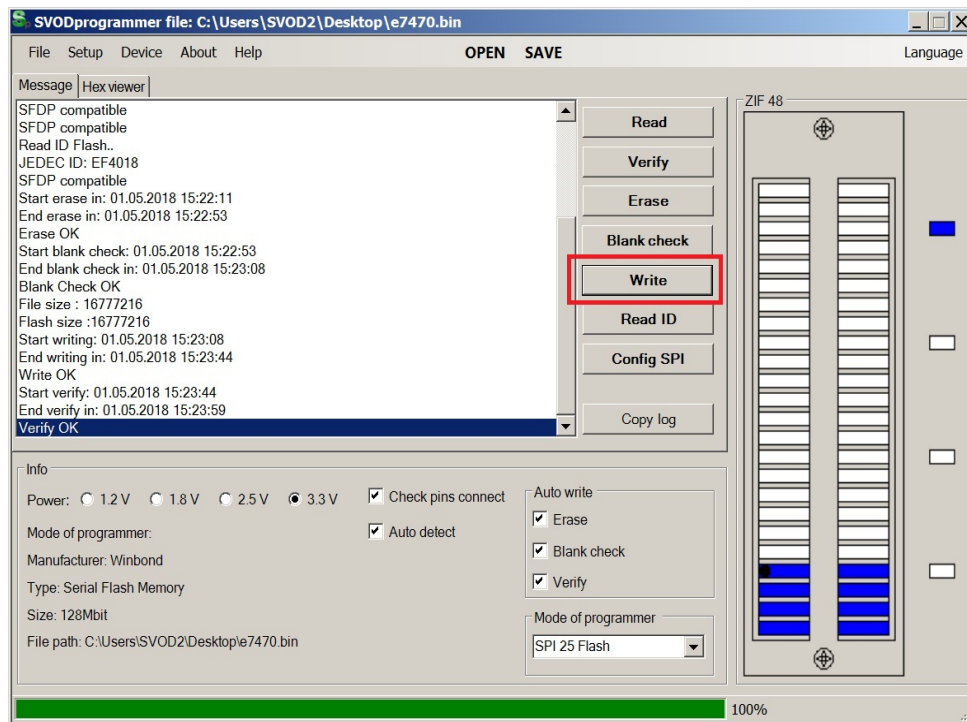


Figure 4: Click Write

Load first a file and write the contents to the SPI Serial Memory.

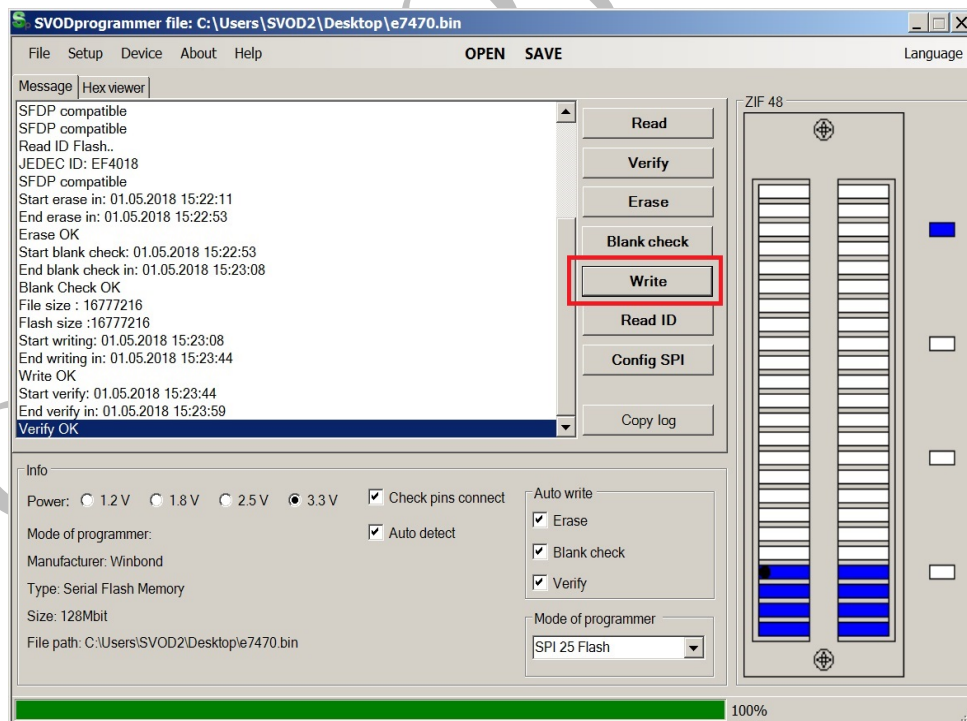
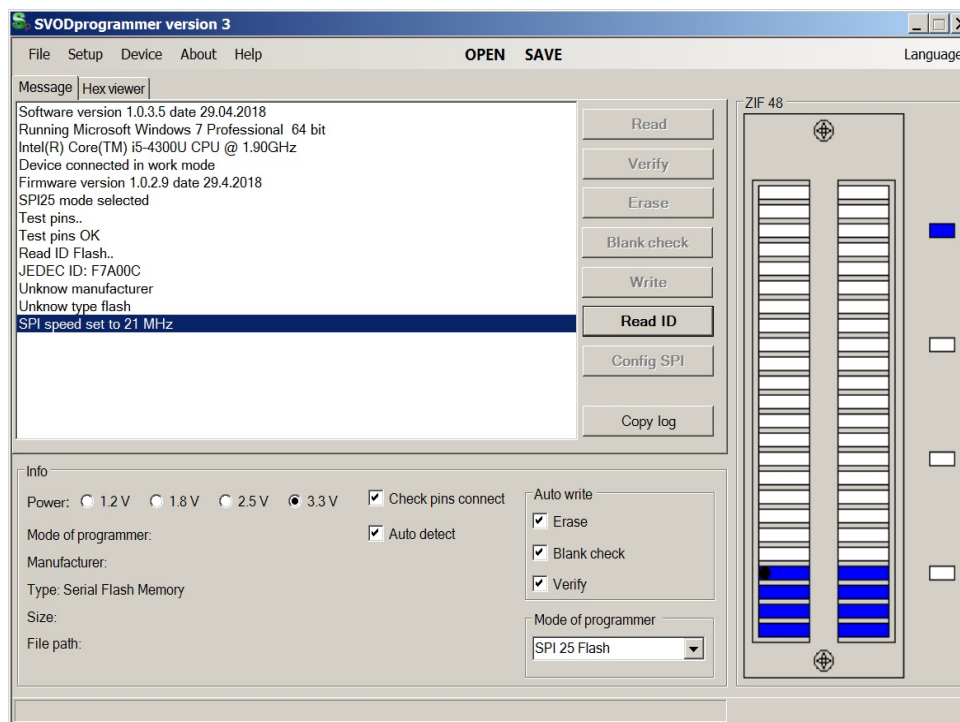


Figure 5: Successful writing with verification

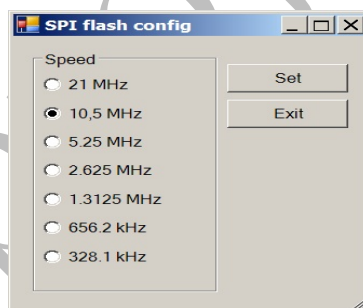


### 3.5 Troubleshooting



**Figure 6:** Unsupported SPI speed

If you get an output like this it could help to set down the SPI speed under Setup.



**Figure 7:** SPI flash config

Choose a lower SPI speed and go on.