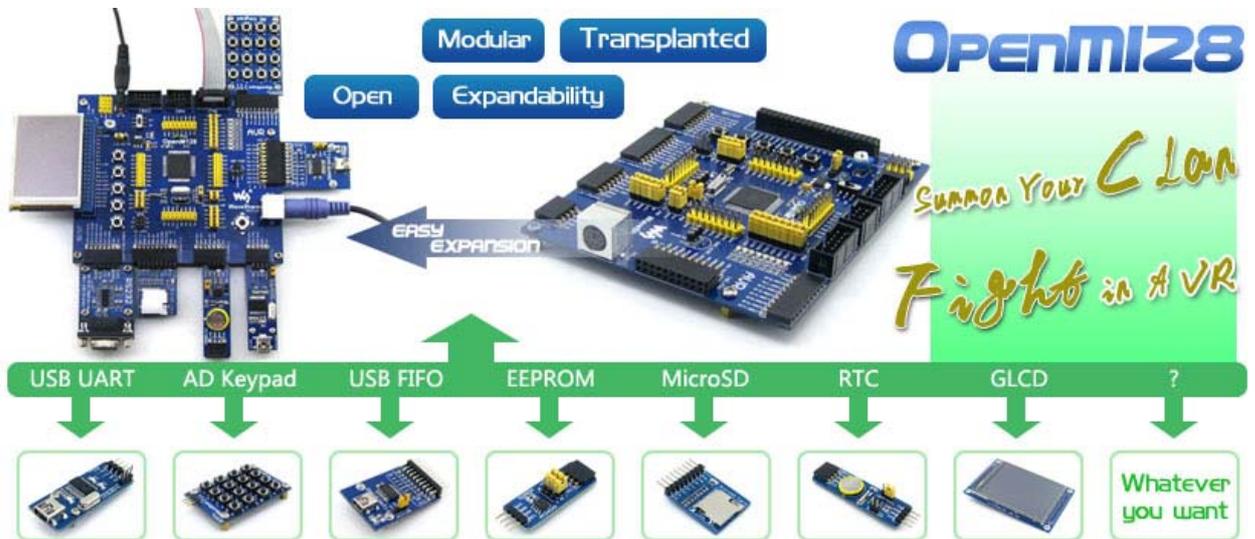


OpenM128 Standard

DVD с ПО и примерами можно скачать по ссылке:

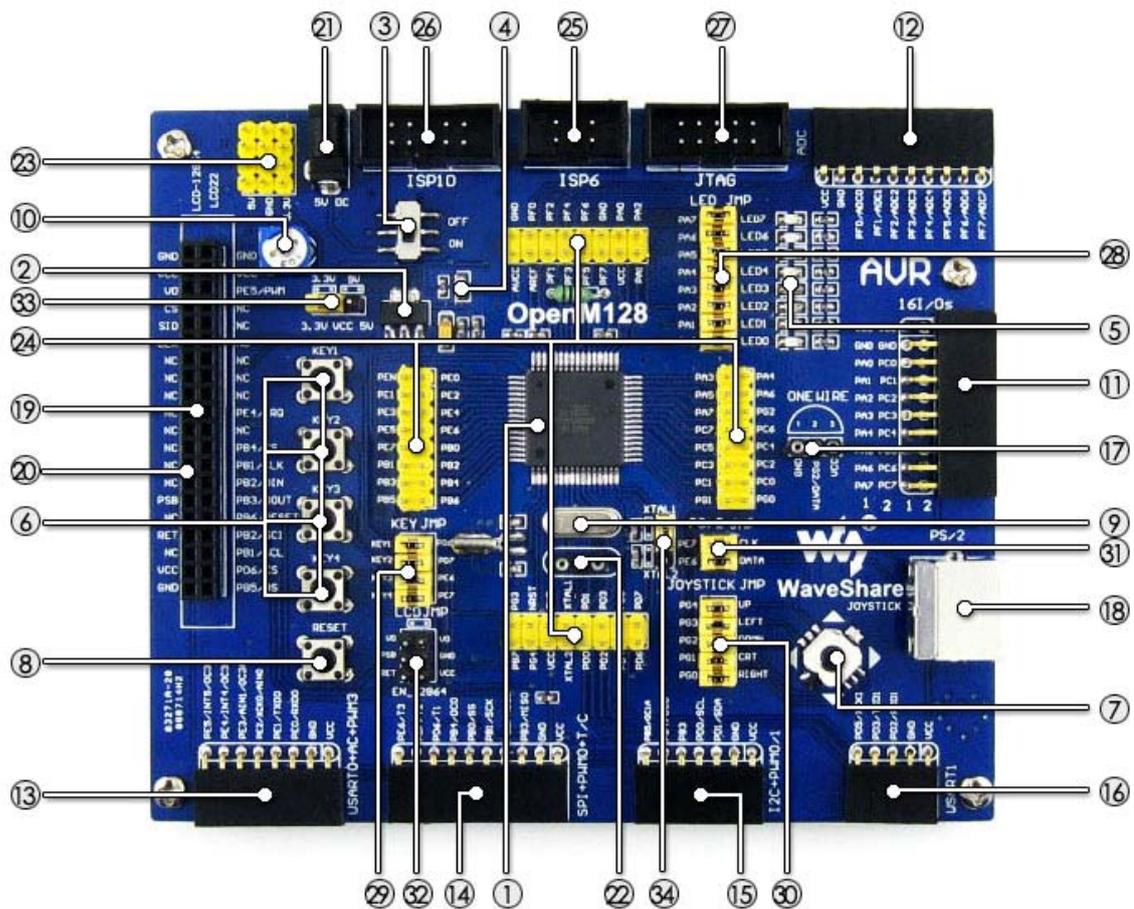
https://mega.co.nz/#!1AVRiY6C!EWDfiAhBGEYH4pPJ03VMqQ2jSvOnLYfAYK19scnnp_o



Overview

OpenM128 is an AVR development board that features a ATmega128 device as the microcontroller. It supports further expansion with various optional accessory boards for specific application. The modular and open design makes it the ideal for starting application development with AVR microcontroller.

What's On Board



1. ATmega128A-AU: the high performance AVR MCU which features:
 - **Core:** AVR 8-bit RISC
 - **Operating Frequency:** 16MHz Max
 - **Operating Voltage:** 2.7-5.5V
 - **Package:** TQFP64
 - **I/Os:** 53
 - **Memories:** 128kB Flash, 4kB SRAM, 4kB EEPROM
 - **Communication Interfaces:** 1 x SPI, 1 x TWI (I2C), 2 x USART, 8 x PWM, 8 x ADC
 - **Debugging/Programming:** JTAG/ISP
2. AMS1117-3.3: 3.3V voltage regulator
3. Power switch
4. Power indicator
5. LEDs: convenient for indicating I/O status and/or program running state
6. User keys: for I/O input test and/or program control
7. Joystick: five positions
8. Reset button
9. Crystal oscillator: 7.3728M & 32.768K
10. Adjustable resistor: for LCD12864 contrast adjustment
11. 16 I/Os interface: for connecting accessory boards which using I/O control, such as FT245 USB FIFO, 8 SEG LED, etc.
12. 8 I/Os interface | 8-bit AD interface

- for connecting accessory boards which using I/O control, such as 8 Push Buttons, Motor, etc.
- there's also 8-bit AD interface can be used for AD testing
- 13. 6 I/Os interface | USART0+AC+PWM3 interface
 - for connecting USART peripherals, such as RS232, RS485, USB TO UART, etc.
 - for connecting accessory boards which using PWM interface, also supports analog comparison through AC interface
- 14. SPI+PWM0+T/C interface
 - for connecting SPI peripherals, such as DataFlash (AT45DBxx), SD card, MP3, etc.
the SPI interface includes additional I/O pins (PWM, T/C as regular I/O) which can be used as controlling pins
 - for connecting accessory boards which using PWM interface, also supports frequency calculation through T/C interface
- 15. I2C+PWM0/1 interface
 - for connecting I2C peripherals, such as I/O expander (PCF8574), EEPROM (AT24Cxx), etc.
the I2C interface includes additional I/O pins (PWM as regular I/O) which can be used as controlling pins
 - for connecting accessory boards which using PWM interface
- 16. USART1 interface: for connecting USART peripherals, such as RS232, RS485, USB TO UART, etc.
- 17. 1-WIRE interface: for connecting 1-WIRE devices (TO-92 package), such as temperature sensor (DS18B20), electronic registration number (DS2401), etc.
- 18. PS/2 interface: for connecting PS/2 keyboard and/or mouse
- 19. Graphic multi-color LCD interface: for connecting 2.2 inch multi-color touch screen LCD which using SPI control
- 20. Graphic dot matrix LCD interface: for connecting dot matrix LCD, such as LCD12864 (3.3V blue backlight)
- 21. 5V DC jack
- 22. Custom crystal socket
- 23. VCC power input/output: usually used for power supply output, and/or common ground with other application board
- 24. MCU pins connector: all the MCU pins are accessible on expansion connectors for further expansion
- 25. ISP6 interface: for programming
- 26. ISP10 interface: for programming
- 27. JTAG interface: for programming/debugging
- 28. LEDs jumper
- 29. User keys jumper
- 30. Joystick jumper
- 31. PS/2 jumper
- 32. LCD selection jumper
 - short the jumper to use dot matrix LCD
 - open the jumper to use multi-color LCD
- 33. VCC selection jumper
- 34. Crystal selection jumper

For jumper 28-31:

- short the jumper to connect to I/Os used in example code;
- open the jumper to connect to other custom pins via jumper wires.

Note:

The OpenM128 does NOT integrate any debugging function, a debugger is required.
Accessory boards in the photo are NOT included in the OpenM128 Standard Package.

Debugging/Programming Interfaces

The figures below show the header pinouts of JTAG, ISP10, ISP6 interface

Figure 1. 10-pin JTAG header pinout

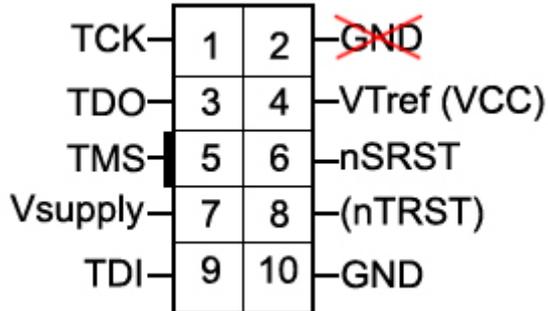


Figure 2. 10-pin ISP header pinout

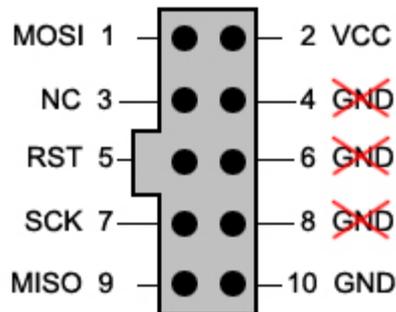


Figure 3. 6-pin ISP header pinout

