

Features

Standard

ATMEL ATmega128 microcontroller

- 128 kB code memory (Flash)
- 4 kB operational memory (RAM)
- running at 14.576 MHz

TTL serial interface

Optional

Switched mode power supply (12V to 5V)

External RAM: 32kB

Additional or alternative serial interface types:

- RS422 differential line
- RS232
- USB (can supply power for the whole system)
 - On main interface connector
 - With USB-B plug
- When multiple interfaces are present a software controlled selector is present

1-wire: serial number chip

I2C: EEPROM memory (1 to 4 chips)

I2C: Thermometer

SPI: Ethernet, 10 Mbps, RJ45 port with integrated magnetics and 2 LED's

Audio (piezo driver), the options for the piezo element itself:

- on-board (internal)
- off-board (external, e.g. mounted to housing)

Graphical display module (240x128 pixels)

- Backlit options:
 - Always ON
 - Programmable full range PWM and static power save mode
- Optional touch panel matrix controller (array of 10x5 pads)

Expansion ports up to 32 signals (see limits below) with dual power (12V / 5V)

PS/2 port or a serial line over PS/2 connector

Limits and possibilities

The expansion ports have limited functionality due to sharing of the pins with other on-board devices, such as:

- External RAM (3+8+8 GPIO)
- Ethernet controller (SPI interface)
- Serial number chip (1 GPIO, used as software controlled 1-wire interface)
- Any I2C device forces the presence of I2C bus (2 GPIO / HW I2C)
 - Touch panel
 - Serial EEPROM
 - Thermometer

The display port can be also used for expansion, if it's not used for display:

- single power (5V)
- 15 GPIO (8+7)

Block diagram

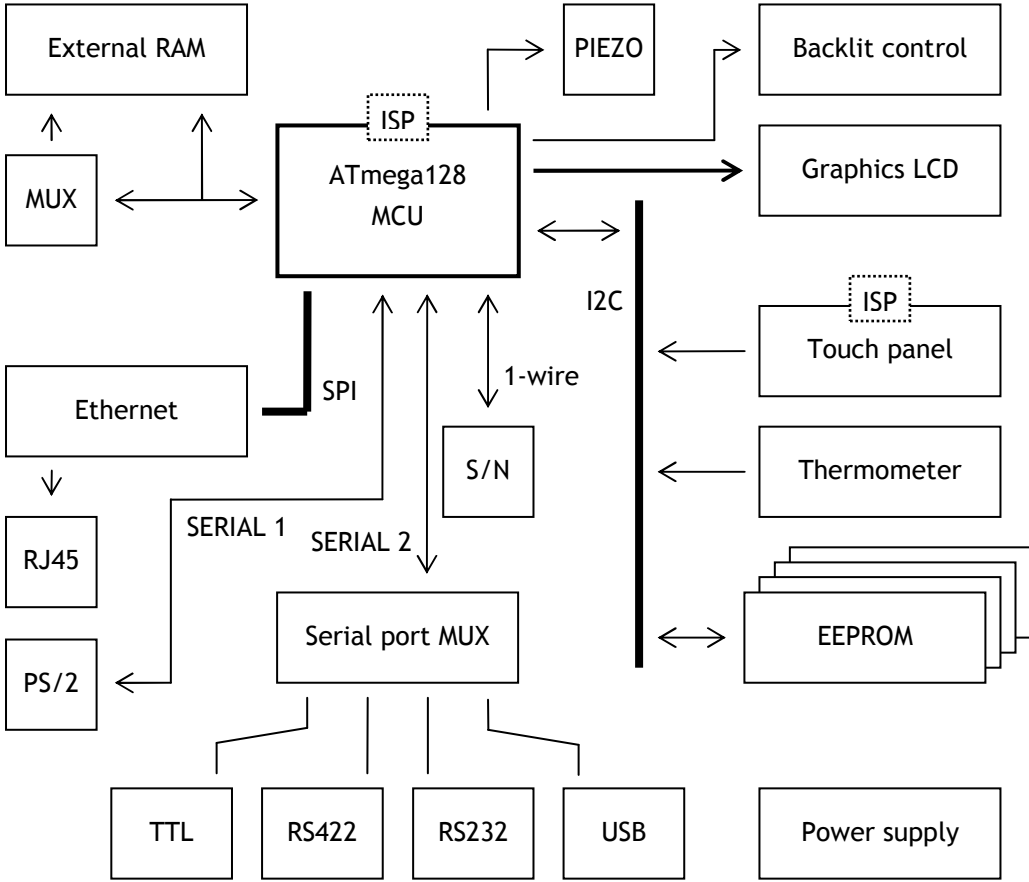


Fig.1: Block diagram of the controller