Marvelmind hedgehog interface to Arduino
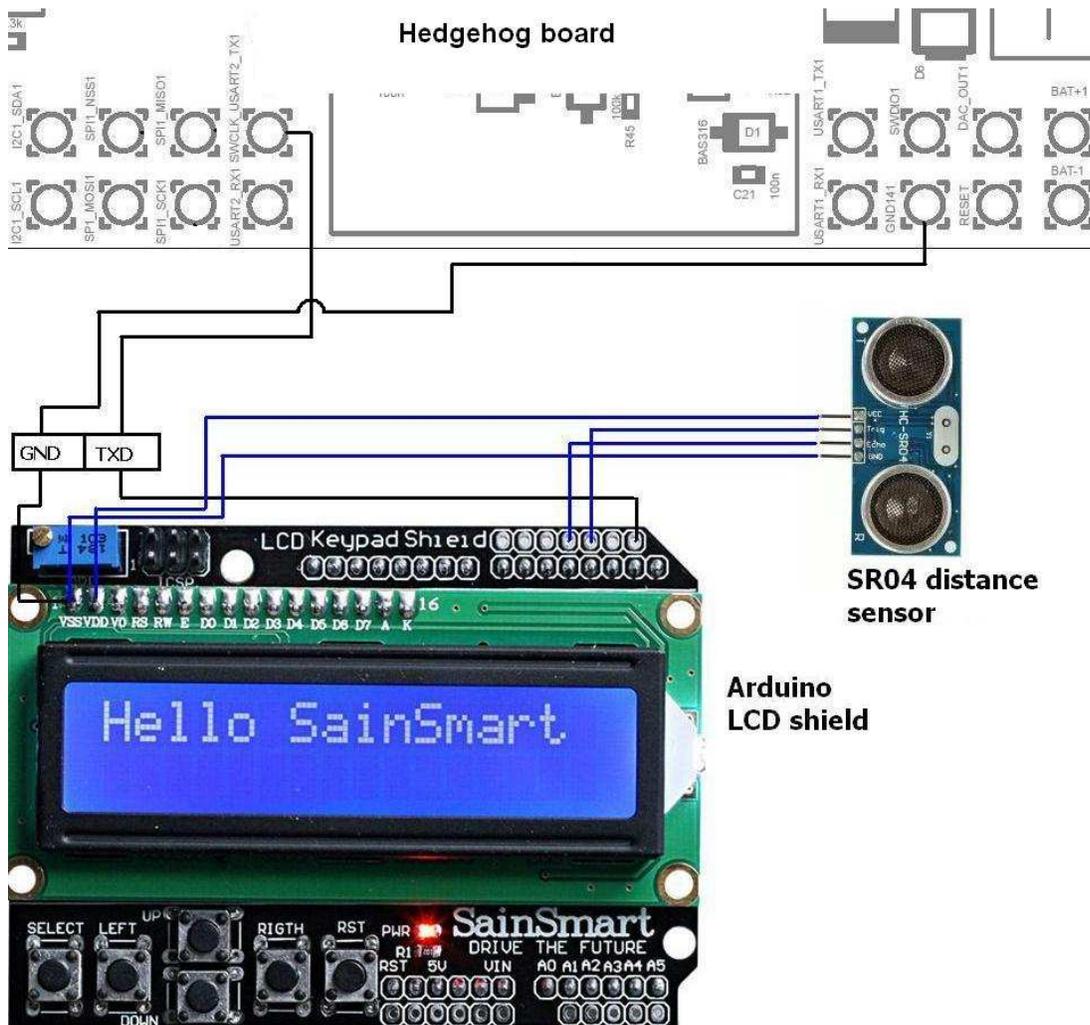
Version 2016.Mar.07

Marvelmind hedgehog can be connected to Arduino boards via UART or SPI interfaces.

Examples of Arduino sketches for getting data from hedgehog are available for Sainsmart Arduino kit:
http://www.sainsmart.com/arduino/arduino-kits/uno-r3-smartkits/sainsmart-uno-lcd-keypad-prototype-shield-hc-sr04-distance-sensor-kit-4-arduino.html

This kit includes Arduino Uno board, LCD board, and ultrasonic distance sensor. Distance sensor works on frequency 40 KHz, which does not overlap with 31 KHz of hedgehog and navigation system and doesn't disturb the system
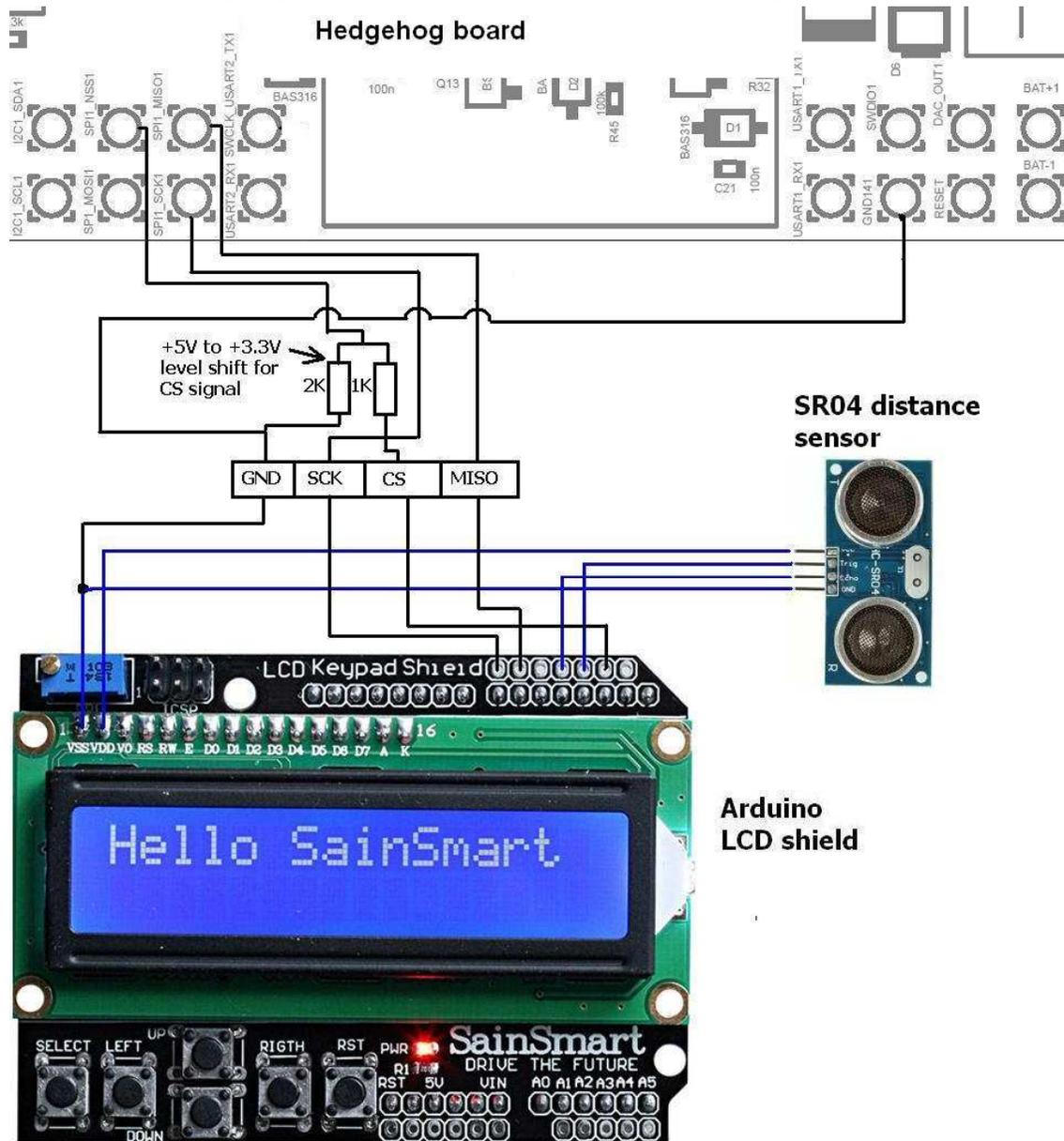
1. UART connection

Connect ion of hedgehog UART to Arduino LCD shield is shown on following picture:

Hedgehog transmits data through UART with parameters: 500 Kbit/sec, 8 bits of data, no parity.

2. SPI connection

Connect ion of hedgehog to Arduino LCD shield is shown on following picture:

Arduino reads data from hedgehog from SPI interface, hedgehog acts as SPI slave device. Parameters of SPI: SPI mode 0, MSB inside each byte transmits first. Connection was tested on SCK speed up to 8 MHz.

Be careful and provide quality wiring connections on high speeds (more than 500 kHz). Chip select input on hedgehog is not compatible with +5V level signals of Arduino, so you need to provide +3.3V level shift like resistor divider on a picture or some another one.