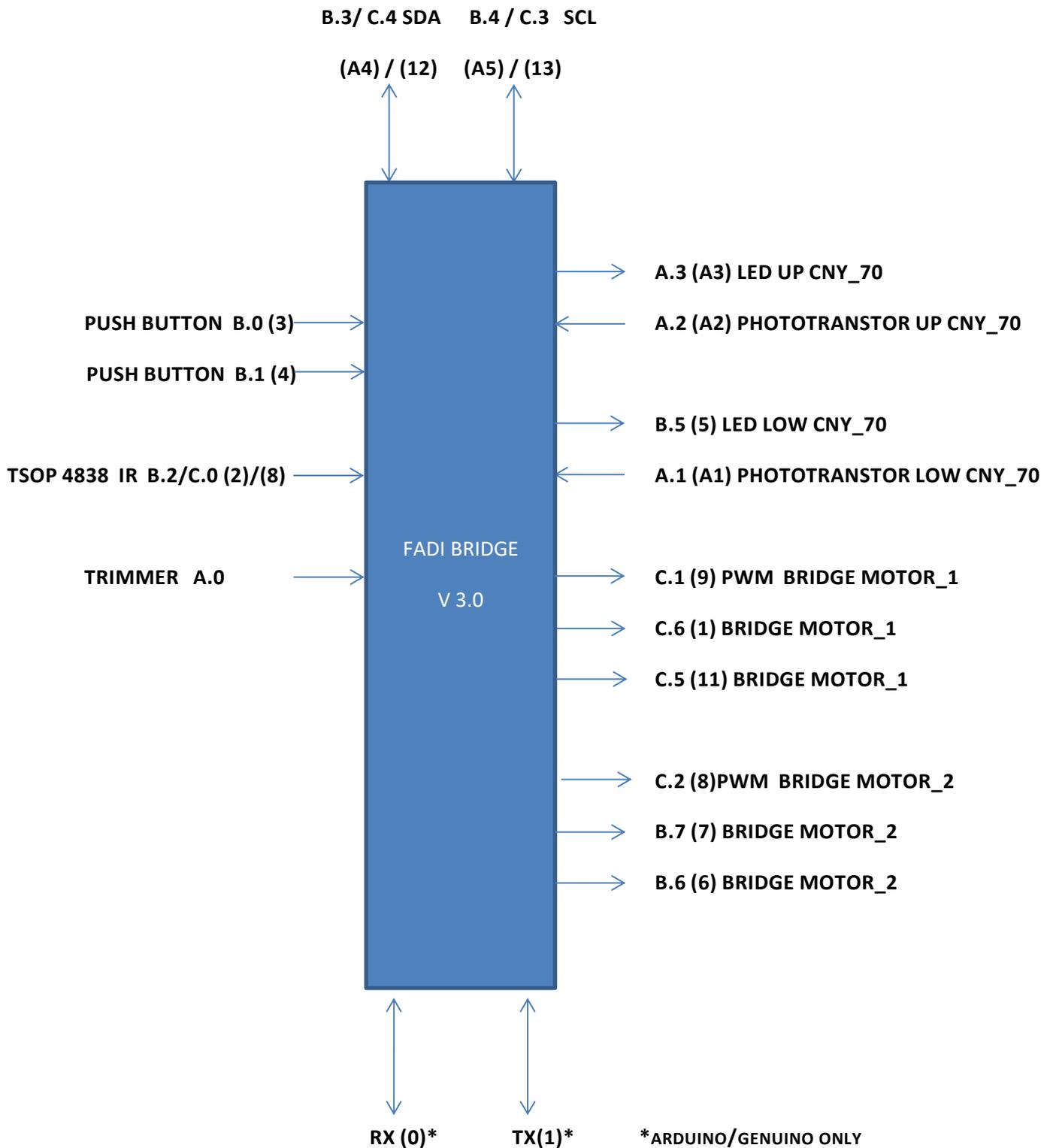


FUNCTIONAL BLOCK FADIBRIDGE 28X2 ARDUINO UNO



*IN () THE SYMBOL OR TERMINAL REFERENCE FOR ARDUINO/GENUINO SYSTEMS

This shield is compatible for genuine / Arduino / Mega systems and PICAXE systems. The compatibility of the I2C BUS is achieved with jumpers. For Arduino systems two bridges must be made in position B.3 (A4) and B.4 (A5). For PICAXE systems, they should be set to C.3 and C.4. This card allows to place the two pull up resistors that configure the bus header.

The programming terminals in Arduino systems are made through the terminals RX (0) and TX (1). The USB cable transmits data from the editor program to the microcontroller that receives the data through the terminal RX (0), this terminal is not used in the shield. The microcontroller board sends data through the terminal RX (0) to the PC where the editor or debugger program resides, this terminal is used as input to the bridge motor.

In PICAXE systems the programming is performed by terminals of port A that are not accessible.

The sensor infrared remote control sensor TSOP4838 can optionally connect a jumper C.0 (INT0) for PICAXE systems, thus caters instantly interrupts. For systems Arduino need to put a jumper on position B.2 (2) (INT0).

There is an adjustable potentiometer that allows you to enter a value analog for converted. Can changed between 0 and 5V input and is connected to the input A.0.

There are 2 connectors designed to connect CNY 70 sensors. The transistor manifold is directly connected to the VCC. The phototransistor emitter is connected to a pull down resistor to GND. The resistance value may vary for and adjust the sensitivity. We have tested values between 3k6 and 9k1 but other values could be valid. The anode of the emitter LED of the CNY70 is connected by means of an external transistor BC547 to VCC through a resistance of 220 Ohms, avoiding to overload the outputs of the microcontroller. This resistance value can be changed. The maximum current that can cross the LED is limited to 100mW and the $V_f = 1.25v-1.6v$ about 50mA. The idea of controlling the LED by means of an output is to save consumption, it is only connected at the moment of the measurement. When programming consider that the LED on is not instantaneous, use a pause between on and reading about 200mS. You can use each connector for other uses than CNY70 by bridging the 220 series resistor will reach a powerful output of about 100mA.

The bridge is a classic H designed to support the L293 or SN754410. You can control 2 motors or 4 outputs with a PWM control mechanism connected to C.1(9) and C.2(8). The bridge power can be bridged directly to + 5v supplied for the microcontroller board or the Vin input.