

LIGHT and SOUND effects

Each LED symbol are extended with 29 led segments.

Diagram illustrating the circuit for LED and Buzzer effects. The circuit includes four LEDs (Led1Player1, Led1Player2, Led2Player1, Led2Player2) and two buzzers (Player2 Buzzer, Player1 Buzzer).

Each LED symbol is extended with 29 led segments. The LEDs are connected to a +5V supply and GND. The connections are as follows:

- Led1Player1:** VDD (3) to +5V, DIN (2) to GND, VSS (4) to GND.
- Led1Player2:** VDD (3) to +5V, DIN (2) to GND, VSS (4) to GND.
- Led2Player1:** VDD (3) to +5V, DIN (2) to GND, VSS (4) to GND.
- Led2Player2:** VDD (3) to +5V, DIN (2) to GND, VSS (4) to GND.

The buzzers are connected to a common ground point (GND):

- Player2 Buzzer:** Pin 1 to GND, Pin 2 to GND.
- Player1 Buzzer:** Pin 1 to GND, Pin 2 to GND.

The diagram shows the WallMotorDriver (Pololu_Breakout_A4988) connected to a stepper motor and two limit switches. The driver is a yellow rectangular component with pins labeled 1 through 16. The connections are as follows:

- Power Supply:** A +5V supply is connected to pin 2 (VDD) and a +12V supply is connected to pin 8 (VMOT).
- Control Signals:** Pin 13 (RESET) is connected to pin 14 (SLEEP). Pin 9 (ENABLE) is connected to pin 15 (STEP). Pin 16 (DIR) is connected to pin 10 (MS1).
- Stepper Motor:** The stepper motor is connected to pins 18 (1B), 19 (1A), 20 (2A), and 21 (2B). The motor is labeled "WallMotor Stepper_Motor_bipolar".
- Limit Switches:** Two limit switches are connected to the driver. The "WallLeftLimitSwitch SW_SPST" is connected to pin 22 (R10k) and the "WallRightLimitSwitch SW_SPST" is connected to pin 23 (R10k). Both switches are connected to a +5V supply and a GND.

Scoring and Point system

These switches are connected to point giving obstacles

The diagram shows four switches connected to +5V and GND. Each switch is labeled with a score and a pin number. The switches are connected to +5V and GND through 10k resistors.

- ScorePlayer1SwitchLow SW_SPST R10k R 27
- ScorePlayer1SwitchMedium SW_SPST R10k R 29
- ScorePlayer2SwitchLow SW_SPST R10k R 26
- ScorePlayer2SwitchMedium SW_SPST R10k R 28

Player1IRGoalSensor MH_Series_KY-033

A0 4 A1
D0 3
GND 2 GND
VCC 1 +5V

Player2IRGoalSensor? MH_Series_KY-033

A0 4 A0
D0 3
GND 2 GND
VCC 1 +5V

Shield for Arduino Mega Rev 3

Pin Header Detail: PB, PF, P10, PLLP12P13, Holes

Power Pins:

- +12V: Vin
- +5V: IOREF
- +3.3V: IOREF
- Reset: Reset
- GND: GND

Analog Pins:

- A0: 1
- A1: 2
- A2: 3
- A3: 4
- A4: 5
- A5: 6
- A6: 7
- A7: 8
- A8: 1
- A9: 2
- A10: 3
- A11: 4
- A12: 5
- A13: 6
- A14: 7
- A15: 8

Digital Pins:

- 52(SCK): 1
- 53(SS): 2
- 51(MOSI): 3
- 50(MISO): 4
- 48: 5
- 46: 6
- 44: 7
- 42: 8
- 40: 9
- 38: 10
- 36: 11
- 34: 12
- 32: 13
- 30: 14
- 28: 15
- 26: 16
- 24: 17
- 22: 18
- 20: 19
- 18: 20
- 16: 21
- 14: 22
- 12: 23
- 10: 24
- 8: 25
- 6: 26
- 4: 27
- 2: 28
- 0: 29
- 35: 30
- 33: 31
- 31: 32
- 29: 33
- 27: 34
- 25: 35
- 23: 36

Communication Pins:

- P5: 1 (SCL), 2 (SDA), 3 (AREF), 4, 5 (13(**)), 6 (12(**)), 7 (11(**)), 8 (10(**)), 9 (9(**)), 10 (8(**))
- P6: 1 (7(**)), 2 (6(**)), 3 (5(**)), 4 (4(**)), 5 (3(**)), 6 (2(**)), 7 (1(Tx0)), 8 (0(Rx0))
- P7: 1 (14(Tx3)), 2 (15(Rx3)), 3 (16(Tx2)), 4 (17(Rx2)), 5 (18(Tx1)), 6 (19(Rx1)), 7 (20(SDA)), 8 (21(SCL))

Rev:
Id: 1/1