

Arduino: Standard project pin-out usage [2009-03-13]

Overview

Default Arduino pin-out usage shared amongst modular examples to allow them to work together.

Profile: Prototype

| Pin number | I/O | PWM | Description | Timer |
|------------|-----|-----|--|---------|
| Analog 0 | In | | Accelerometer X | |
| Analog 1 | In | | Accelerometer Y | |
| Analog 2 | In | | Accelerometer Z | |
| Analog 3 | In | | Potentiometer 1 | |
| Analog 4 | In | | Potentiometer 2 | |
| Analog 5 | In | | Light Dependent Resistor | |
| Digital 0 | In | | UART: Serial Receive | |
| Digital 1 | Out | | UART: Serial Transmit | |
| Digital 2 | Out | | LCD Clock signal (3-wire interface using MC14094 8-bit shift/latch) | |
| Digital 3 | Out | Yes | LED Red | Timer 2 |
| Digital 4 | Out | | LCD Data signal (3-wire interface using MC14094 8-bit shift/latch) | |
| Digital 5 | Out | Yes | LED Green | Timer 0 |
| Digital 6 | Out | Yes | LED Blue | Timer 0 |
| Digital 7 | Out | | LCD Strobe signal (3-wire interface using MC14094 8-bit shift/latch) | |
| Digital 8 | In | | Control button for LCD menu / command | |
| Digital 9 | Out | Yes | Relay output 1 or Servo motor 1 | Timer 1 |
| Digital 10 | Out | Yes | Relay output 2 or Servo motor 2 | Timer 1 |

| | | | | |
|------------|----------|-----|---|---------|
| Digital 11 | Out | Yes | Relay output 3 or Servo motor 3 | Timer 2 |
| Digital 12 | In / Out | | 1-wire bus (temperature sensor) or CANBus | |
| Digital 13 | Out | | Status LED | |

Profile: Simple LCD and sensor shield

| Pin number | I/O | PWM | Description | Timer |
|------------|----------|-----|---|---------|
| Analog 0 | In | | Light Dependent Resistor | |
| Analog 1 | In | | Potentiometer | |
| Analog 2 | In | | Button 1 | |
| Analog 3 | In | | Button 2 | |
| Digital 0 | In | | UART: Serial Receive | |
| Digital 1 | Out | | UART: Serial Transmit | |
| Digital 2 | Out | | LCD Clock signal (3-wire interface using MC14094 8-bit shift/latch) | |
| Digital 3 | Out | Yes | LCD Data signal (3-wire interface using MC14094 8-bit shift/latch) | Timer 2 |
| Digital 4 | Out | | LCD Data signal (3-wire interface using MC14094 8-bit shift/latch) | |
| Digital 5 | In / Out | Yes | 1-wire bus (temperature sensor) | Timer 0 |
| Digital 6 | Out | Yes | Relay output 1 | Timer 0 |
| Digital 7 | Out | | Relay output 2 | |

Design trade-offs

- Save PWM outputs for those things that can really use PWM.
- For [cheap LCD display](#)¹, use [minimal 3-wire interface](#)² and only consume 3 Arduino pins, not 6 or more.

1. http://www.jaycar.com.au/product_display.asp?id=1155 You can get a Serial LCD Display for Q15 only a single Arduino pin, but they are more expensive.
2. <http://www.arduino.cc/playground/Code/LCD3wires>

expensive.