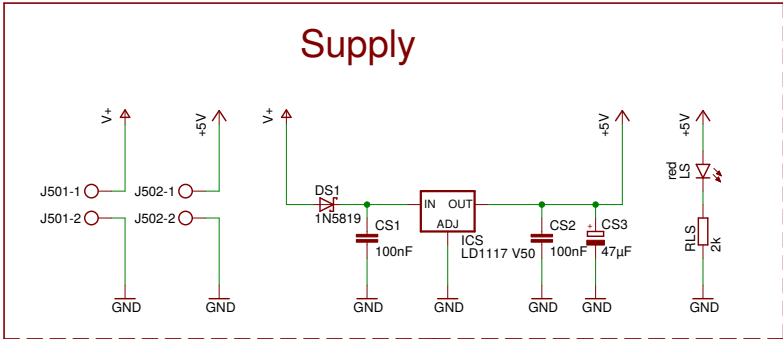
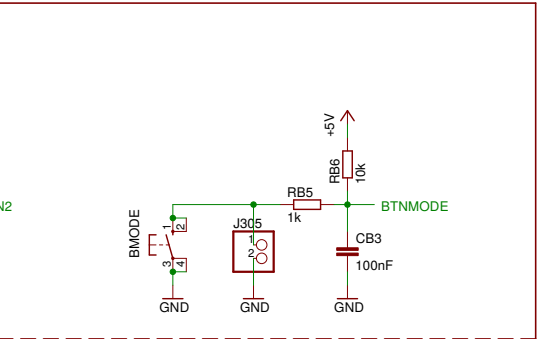
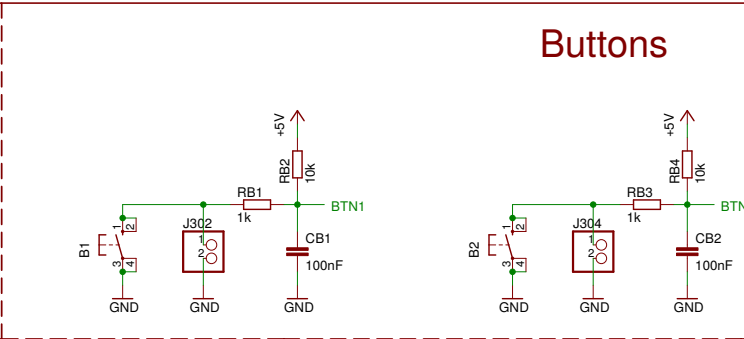


Supply

The diagram shows a 5V voltage regulator circuit. The input (IN) is connected to a 1N5819 diode (DS1) in series with a 100nF capacitor (CS1). The output (OUT) is connected to a 100nF capacitor (CS2) and a 47µF capacitor (CS3) in parallel. The output is also connected to a red LED (LS1) in series with a 2kΩ resistor (RLS). The ground (GND) is connected to the common ground of the input and output capacitors.

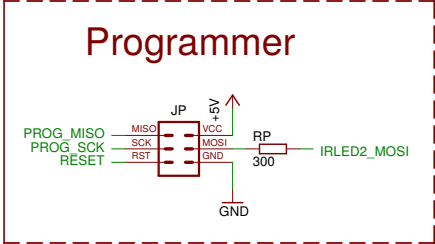


Buttons

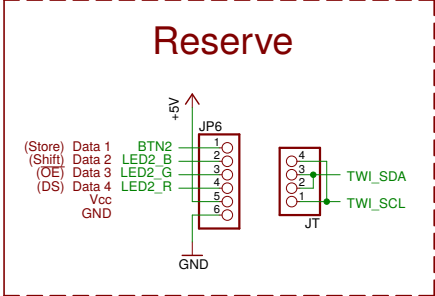


Programmer

The diagram shows a programmer circuit. A 5V supply is connected to the VCC pin of a JP header. The MOSI pin is connected to the MOSI pin of an RP header. The RST pin is connected to the RST pin of the RP header. The RP header is connected to a 300 ohm resistor, which is then connected to the IRLED2_MOSI pin. The GND pin is connected to the GND pin of the RP header.



Reserve



MEGA328P-PU

RESET

PC6(/RESET)

PC0(ADC0)

PC1(ADC1)

PC2(ADC2)

PC3(ADC3)

PC4(ADC4/SDA)

PC5(ADC5/SCL)

PB6(XTAL1/TOSC1)

PB7(XTAL2/TOSC2)

GND

VCC

PB0(ICP)

PB1(OC1A)

PB2(SS/OC1B)

PB3(MOSI/OC2)

PB4(MISO)

PB5(SCK)

PD0(RXD)

PD1(TXD)

PD2(INT0)

PD3(INT1)

PD4(XCK/T0)

PD5(T1)

PD6(AIN0)

PD7(AIN1)

LED2_R

LED2_G

LED2_B

BTN2

TWI_SDA

TWI_SCL

BUS_RX

BUS_TX

BUS_ENABLE

IRLED1

BTNMODE

LED1_B

BUS_DETECT1

BUS_DETECT2

BTN1

LED1_R

LED1_G

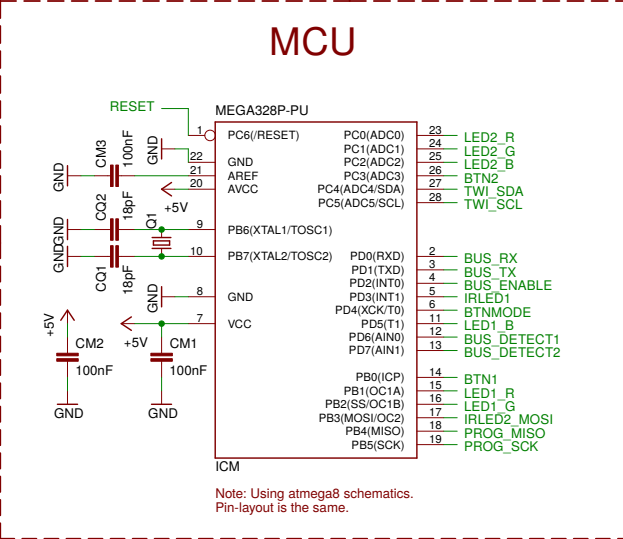
IRLED2_MOSI

PROG_MISO

PROG_SCK

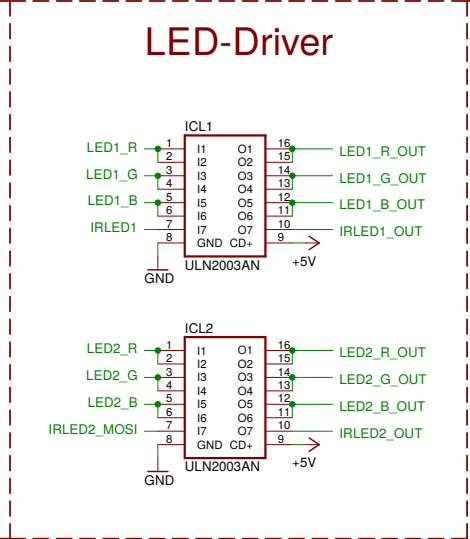
ICM

Note: Using atmega8 schematics.
Pin-layout is the same.



Note: Using atmega8 schematics.
Pin-layout is the same.

LED-Driver



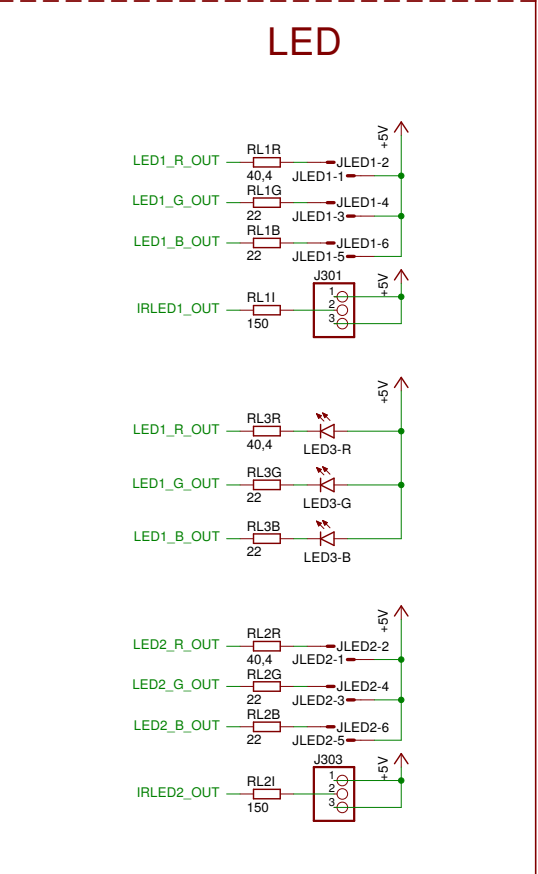
LED

The image displays three circuit diagrams for LED connections, each featuring a +5V power supply and a ground connection.

Diagram 1 (Top): Shows connections for JLED1-2, JLED1-4, JLED1-6, and J301. The components are RL1R (40,4), RL1G (22), RL1B (22), and RL1I (150).

Diagram 2 (Middle): Shows connections for LED3-R, LED3-G, and LED3-B. The components are RL3R (40,4), RL3G (22), and RL3B (22).

Diagram 3 (Bottom): Shows connections for JLED2-2, JLED2-4, JLED2-6, and J303. The components are RL2R (40,4), RL2G (22), RL2B (22), and RL2I (150).



BUS-Driver

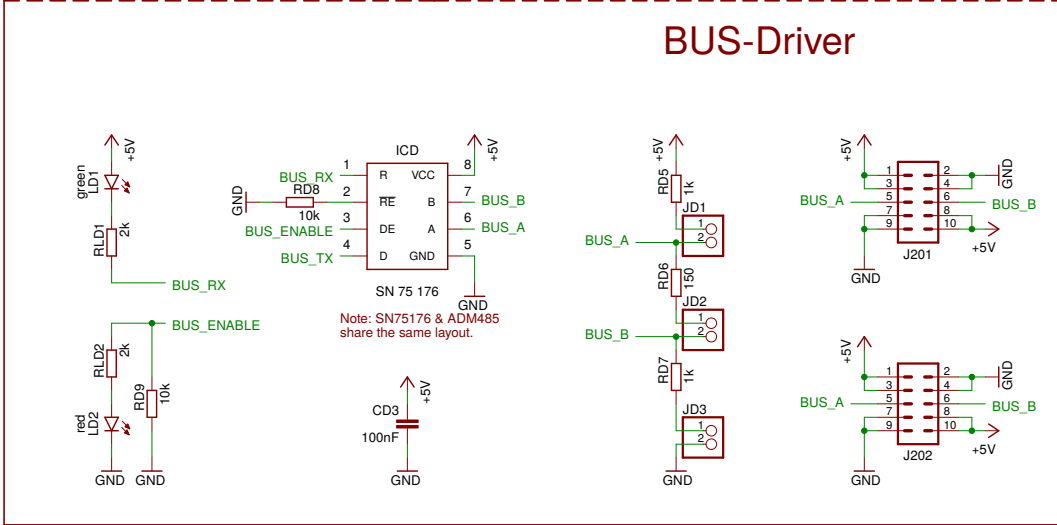
The circuit diagrams illustrate the implementation of a BUS-Driver using the SN75176 and ADM485 ICs. The IC is configured as follows:

- Pin 1 (R):** Connected to GND.
- Pin 2 (RE):** Connected to GND via a 10k resistor (RD8).
- Pin 3 (DE):** Connected to GND via a 2k resistor (RD1).
- Pin 4 (D):** Connected to GND via a 2k resistor (RD2).
- Pin 5 (GND):** Connected to GND.
- Pin 6 (A):** Connected to GND via a 10k resistor (RD9).
- Pin 7 (B):** Connected to GND via a 1k resistor (RD5).
- Pin 8 (VCC):** Connected to +5V.

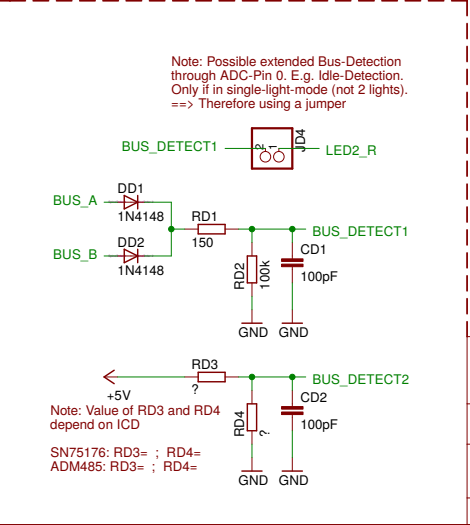
The IC is also connected to two 10-pin D-sub connectors (J201 and J202) via 150Ω resistors (RD6 and RD7). The connectors are labeled BUS_A and BUS_B. The connectors are also connected to GND and +5V.

Note: SN75176 & ADM485 share the same layout.

A 100nF capacitor (CD3) is connected between the +5V supply and GND.



Note: Possible extended Bus-Detection through ADC-Pin 0. E.g. Idle-Detection. Only if in single-light-mode (not 2 lights). ==> Therefore using a jumper



Note: Value of RD3 and R depend on ICD

SN75176: RD3= ; RD4=
ADM485: RD3= : RD4=

<h1>Peter Weissig</h1>	
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Document Number:	REV:
Date: 29.01.18 00:26	Sheet: 1/1

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