

Table 1: List of Materials

Component	Description	Price
ATMEGA2560	Main microcontroller(processor)	£7.50
WS2812b	Full colour LEDs with integrated controllers, 1m in length	£6.30
LM358	Operational amplifier	30 p
Push buttons	User input	50 p
52DB	Condenser microphone	10 p
LCD1602	LCD character display	£2.00
Others	Wires, resistors, capacitors, etc.	£1.00
Total		£17.7

Table 2: Voltage Range

Component	Working Range of Voltage
ATMEGA2560	1.8 – 6.0 V
WS2812b	3.5 – 5.3 V
LM358	Maximum 32 V
LCD1602	Maximum 5.5 V
Entire system	3.5 – 5.5 V

Table 3: Temperature Range

Component	Working Range of Temperature
ATMEGA2560	-55 – 125 °C
WS2812b	-25 – 80 °C
LM358	-55 – 125 °C
LCD1602	-20 – 70 °C
Entire system	-20 – 70 °C