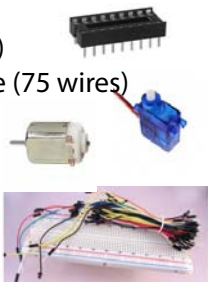


Prototyping

- 1 x Breadboard (in 2 Parts)
- 1 x Set of Connection Wire (75 wires)
- 2 x IC Sockets (16 pin)
- 3 x IC Sockets (14 pin)
- 1 x 3-Way terminal block
- 1 x 3V DC Motor
- 1 x 3.7g Mini Servo Motor



Remember Multimeter (outside case)

Prototyping Electronics Kit (EE223 - Digital and Analogue Electronics)

To get your full deposit back, please take care of this kit and return it as you have received it. If a component breaks, please replace it (for free) with a new one from the component bins that will be provided.

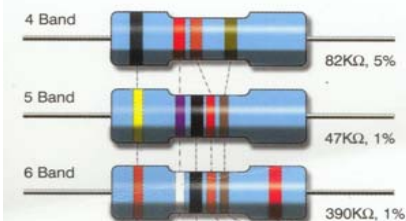
Videos and documentation at: www.eeng.dcu.ie/~molloyd/EE223/

Arduino

- 1 x Arduino (AT Mega 328)
- 1 x USB Cable (A-B)
- 1 x Battery Holder (4xAA)
- 1 x Cap (fits 9v battery and battery holder)
- 1 x 9V Battery (please replace when empty)



Resistor Colour Code



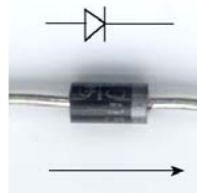
0	0	0	0.01	10%	
1	1	1	0.1	5%	
2	2	2	1	1%	100 ppm
3	3	3	10	2%	50ppm
4	4	4	1k	tolerance	15ppm
5	5	5	10k		25ppm
6	6	6	100k	0.5%	temperature coefficient
7	7	7	1M	0.25%	
8	8	8	10M	0.1%	
9	9	9	multiplier (Ω)		

Resistors

- 10 x 100 Ω
- 10 x 150 Ω
- 50 x 220 Ω
- 10 x 240 Ω
- 10 x 470 Ω
- 10 x 1 KΩ
- 10 x 1.5 KΩ
- 10 x 1MΩ

Diodes

- 5 x 1N4001
- 10 x 1A 50V DO-204AL



Displays, RGB LEDs and Sensors

- 1 x Mini 8x2 Character LCD Module
- 2 x Pirahna RGB LED (square)
- 2 x 7 Seg Displays (common cathode)
- 2 x 7 Seg Displays (common anode)
- 1 x Mini Light Dependent Resistor
- 1 x LM335X Precision Temperature Sensor
- 1 x 8x8 Red/Green Dot Matrix Display
- 1 x Piezo Sounder (flat)
- 2 x Kingbright dot matrix (TC07-11EWA)



Integrated Circuits - Gates

- 3 x AND Gates (74HC08N)
- 3 x OR Gates (74HCT32N)
- 3 x NOT Gates (74HC04N)
- 3 x XOR Gates (74HC86N or HCF4070)
- 2 x 3-INPUT NOR Gates (74HCT27N)
- 6 x NAND Gates (74HC03)
- 6 x NOR Gates (74HC02)



Integrated Circuits - Counters

- 2 x Decade Counter (74HC390N)
- 2 x 4-Stage Binary Counter (74HC4060E)
- 3 x BCD Up/Down Counter (40192BE)
- 2 x 4-bit Full Adder (74HC283E)
- 2 x Dual 4-IN Mux (74HCT253E)
- 2 x Demux/Decoder (14555BCPG)



Integrated Circuits - Flip-Flops

- 4 x JK Flip-Flop (+ve) (74HCT109N)
- 4 x JK Flip-Flop (-ve) (74HCT112)
- 4 x D-Type Flip-Flop (74VHC74N)
- 3 x Shift Register (S->P) (74HC164N)
- 3 x Shift Register (P->S) (74HCT166N)



LEDs

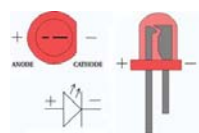
- 10 x 5mm Green (30mA 2.8V)
- 10 x 5mm Red (30mA 2.6V)
- 10 x 5mm Yellow (20mA 2.4V)



Please Keep in Bags

LEDs

- 10 x 5mm Clear Green (20mA 2.1V)
- 10 x 5mm Clear Red (20mA 2.1V)
- 10 x 5mm Clear Blue (20mA 3.5V)



Please Keep in Bags

Integrated Circuits

- 2 x 3-8 Decoder (74HC238)
- 3 x 8-3 encoder (74HC148N)
- 2 x BCD ->7-Seg Decod. (74LS47N)



Integrated Circuits

- 4 x 555 Timer (NA555P)
- 2 x OP AMP (UA741CP)
- 2 x Shift Registers in IC Sockets (74HC595)



Transistors & Voltage Regulators

- 1 x TIP-120 Transistor
- 3 x LDO Regulator 5V (KA7805A)
- 6 x NPN Transistor (BC547)
- 6 x PNP Transistor (P2N2222A)
- 6 x TO-92 PNP



Potentiometers and Switches

- 1 x Pot (4k7 large)
- 2 x 6 way DIP switch
- 2 x Slide Switch
- 5 x Buttons
- 1 x 100 Ω Pot
- 1 x 1KΩ Pot
- 1 x 10kΩ Pot
- 1 x 100kΩ Pot



Electrolytic Capacitors

- 6 x 2.2uF
- 6 x 10uF
- 6 x 22uF



Ceramic Capacitors and Fuses

- 6 x 10nF (1032)
- 6 x 100nF (tiny 104)
- 6 x 47nF (4732)
- 2 x PTC Fuse 0.17A (RX17F)
- 2 x PTC Fuse 0.5A (9RX50F)

