

Electronics

Adam Boult (www.bou.lt)

April 30, 2025

Contents

Preface	2
I Electric circuits	3
1 Batteries, wire and resistors	4
2 Circuit diagrams and parallel and sequential circuits	5
3 Switches and variable resistors	6
4 Diodes and capacitors	7
II Inputs and outputs	8
5 Lights	9
6 Motors	10
7 Audio	11
8 Radio	12
9 Temperature and moisture sensors	13
10 Electric clocks	14
III Intermediate	15
11 Mains electricity	16
12 Circuit boards	17

Preface

This is a live document, and is full of gaps, mistakes, typos etc.

Part I

Electric circuits

Chapter 1

Batteries, wire and resistors

1.1 Basics

1.1.1 Batteries

1.1.2 Wires

1.2 Basic things

1.2.1 Resistors

1.2.2 Amps

1.2.3 Volts

1.3 Circuitry

1.3.1 Sequential resistors

1.3.2 Parallel resistors

1.4 More

1.4.1 Capacitors

1.4.2 Transistors

Chapter 2

Circuit diagrams and parallel and sequential circuits

Chapter 3

Switches and variable resistors

Chapter 4

Diodes and capacitors

Part II

Inputs and outputs

Chapter 5

Lights

5.1 Introduction

5.1.1 Introduction

Chapter 6

Motors

6.1 Introduction

6.1.1 Introduction

Chapter 7

Audio

7.1 Introduction

7.1.1 Introduction

Chapter 8

Radio

8.1 Introduction

8.1.1 Introduction

Chapter 9

Temperature and moisture sensors

Chapter 10

Electric clocks

Part III

Intermediate

Chapter 11

Mains electricity

Chapter 12

Circuit boards