







On/Off

1976

6427

5798

3235

Specification

Use only of use

Always remove the device out of the table

Warning

Specification

Use only of use

Always remove the device out of the table

Warning



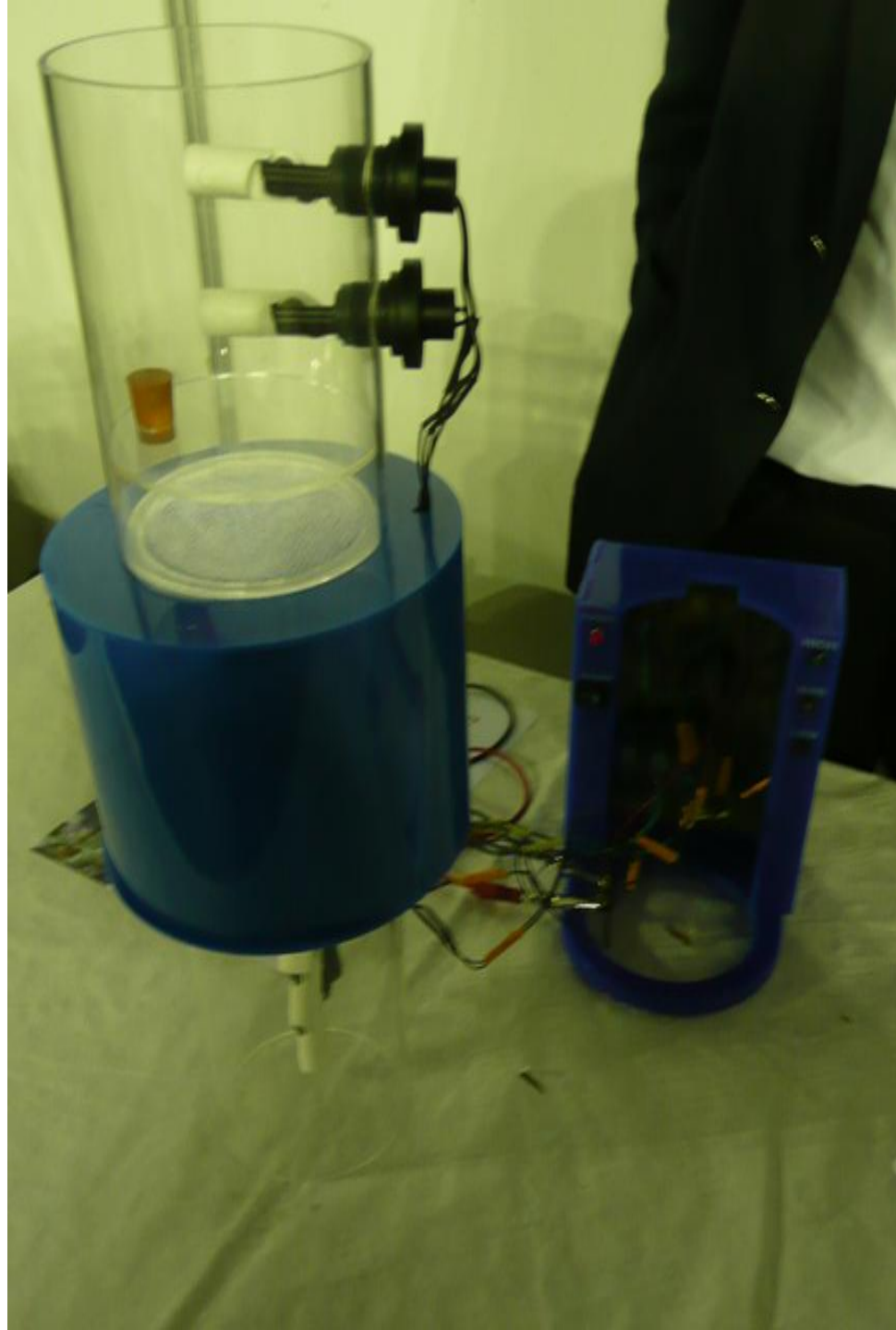


Bottle Sorter
Control Panel: 71000
Control Panel: 8020

Green

Clear







Informational poster with text and graphics.

Informational poster with text and graphics.

Informational poster with text and graphics.

Young Innovators
Award 2011
Swinning Hill School Centre
for Science and Technology

CREST Awards

Informational poster with text and graphics.

Informational poster with text and graphics.

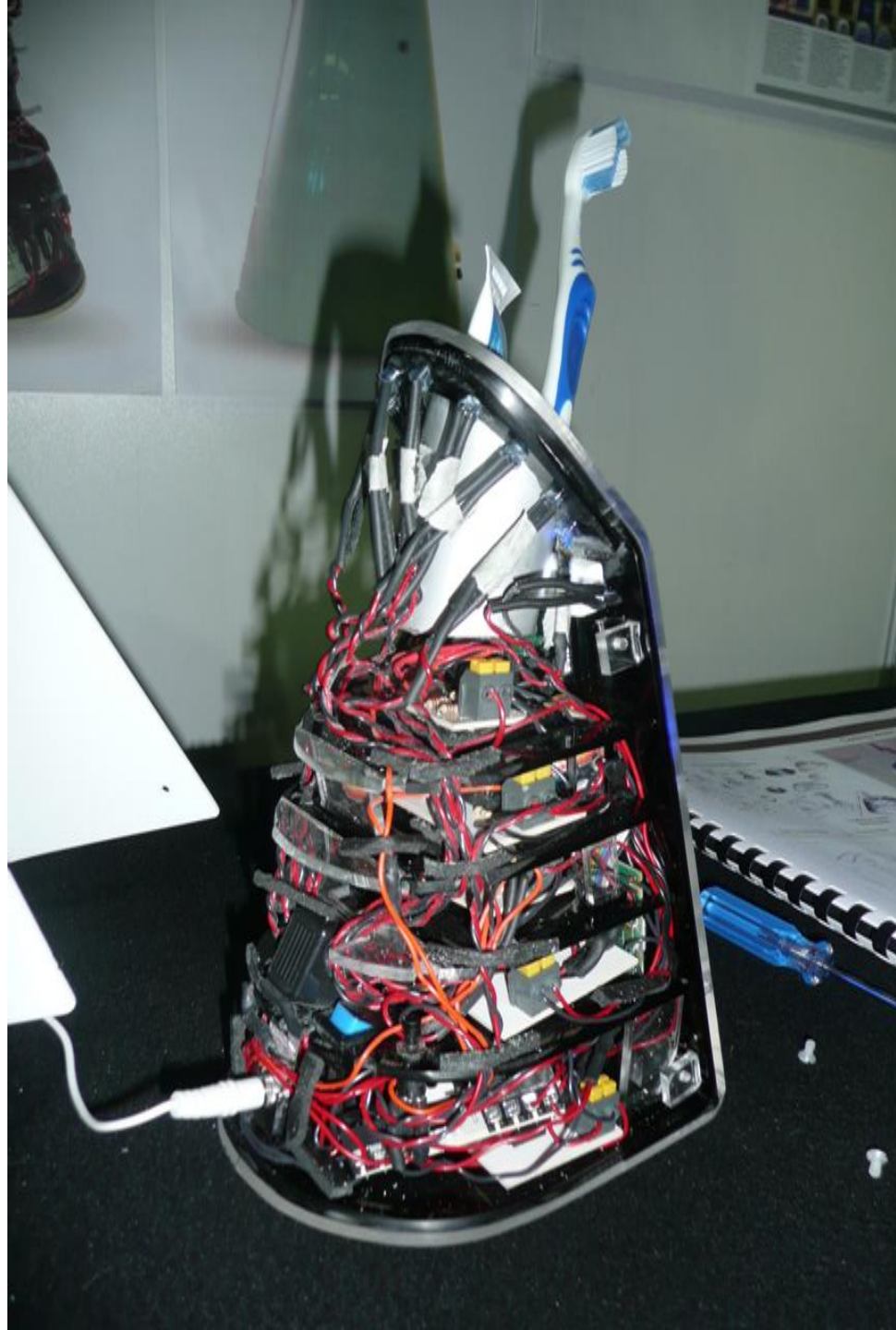
Informational poster with text and graphics.

Informational poster with text and graphics.

Informational poster with text and graphics.

Informational poster with text and graphics.







Design Selection

SolidWorks

Final Product

Final Product

Development I

Development I

Final Development

Final Development

Plastic

ors
y Bang

North
ors
Northern Ireland Young Scientists

Young Engineers

Bill



Initial Design Ideas



Design Selection

Part Name	Material	Color	Dimensions	Notes
Body	Plastic	Yellow	100mm x 100mm	Smooth finish
Skirt	Fabric	Red	50mm x 50mm	Lightweight
Mask	Cardstock	White	60mm x 60mm	Stiff
Eye	Plastic	Red	10mm x 10mm	Small
Nose	Plastic	Blue	10mm x 10mm	Small
Mouth	Plastic	Green	10mm x 10mm	Small





TURISMO RACE

Section 1
Product Design

Section 2
Product Design

Sentimus
Young Innovators

3D
SolidWorks

4



THE 100 MOST INFLUENTIAL
TECHNOLOGY COMPANIES
IN THE WORLD
BY JEFFREY BLANKENHORN
AND
CHRISTOPHER D. LADD
OF
FORBES



Process of the base

regular shoes

Shoe Stand Finished

Shoe Stand Finished

Design Problem

Changes made during manufacture

Soildwork

Soile
Shoe Stand with So

WARNOMATIC



CAR SOCKET

ATTACH TO TRAILER

TRAILER PLUG

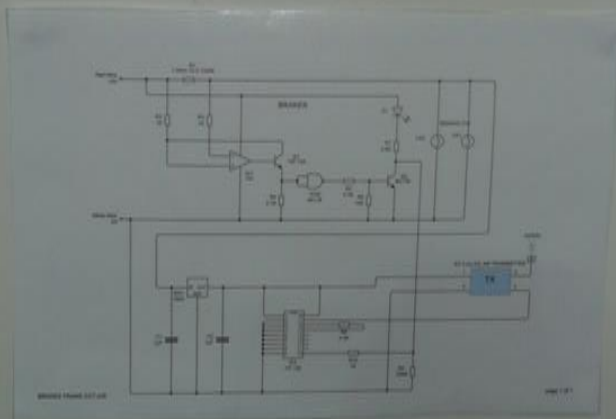
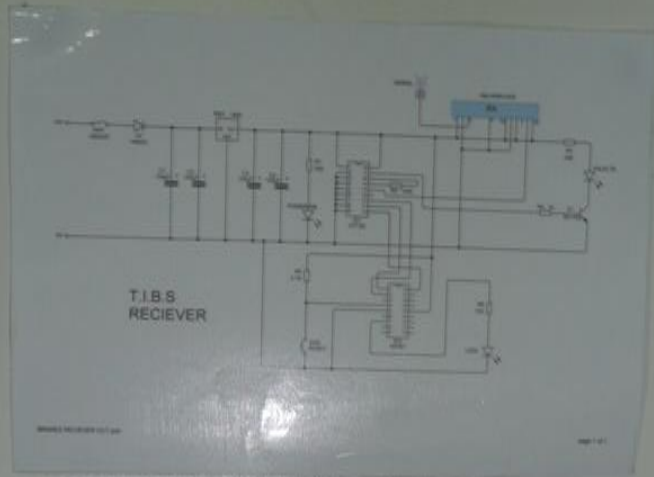
WIRE BROKEN

BULB BLOWN





FERRARI
S.p.A. - Via Salaria, 101 - 00198 Roma, Italia





ign





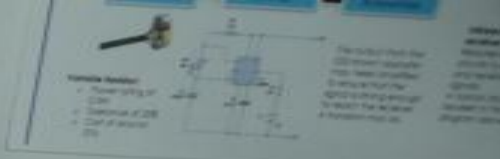
Range
The maximum range of the sensor should be approximately 10m.

Assembly required
The user should be able to assemble the sensor using a screwdriver. The sensor should be programmed to allow the user to complete a simple task at a certain range for the sensor and close circuit.

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Slide the battery
and switches in.

Switch can be
removed to allow the
cover to slide off.

Chief's Choice
Transistor Kit

Power
A
with Transistors

Volume
Control

Volume
Control

Volume
Control

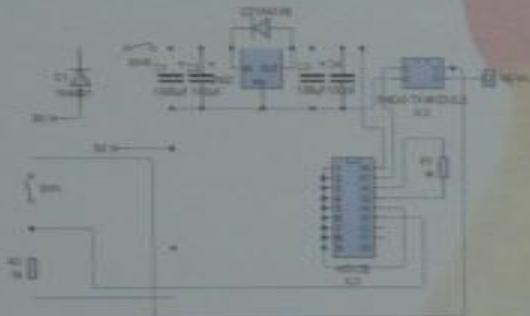


Handwritten notes and printed text on a document, including a list of items and a table with columns and rows.

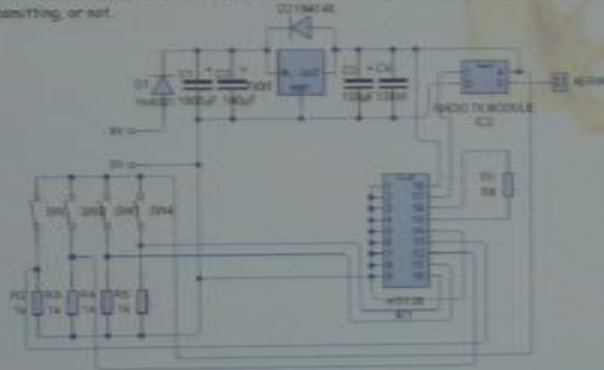
Printed text on a document, including a logo and several lines of text.

1. Circuit design- Transmitter

The circuit will be built using a PIC chip. Below is a circuit that would be built and given to all 4 children. Each one would be modified so that it would output a different frequency to uniquely identify each circuit separately. SW5 controls the power being provided to the circuit. SW1 controls whether the circuit is transmitting, or not.



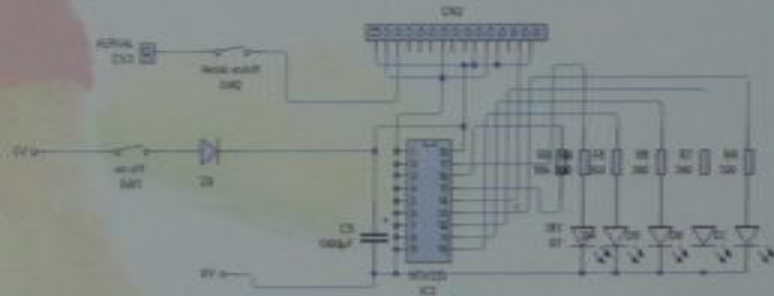
Below is the circuit that I will be building. It can control the transmission of all 4 radio frequencies from the one circuit, which represents the actual 4 different circuits if they were to be built. SW1, SW2, SW3, SW4 controls whether each of the 4 frequencies are transmitting, or not.



2. Circuit design- Receiver

Radio Receiver Module

I will first begin with the radio control module and circuitry and explain its functionality.

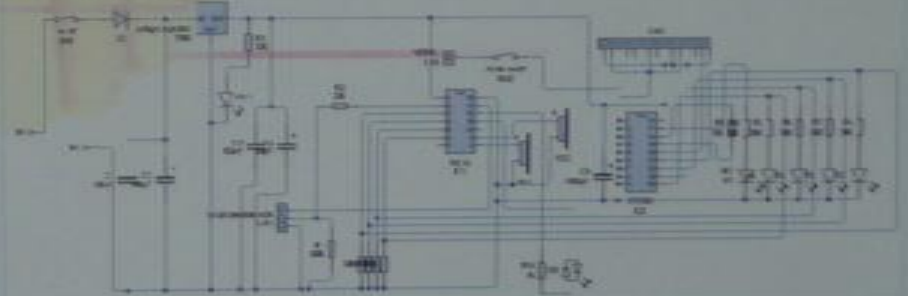


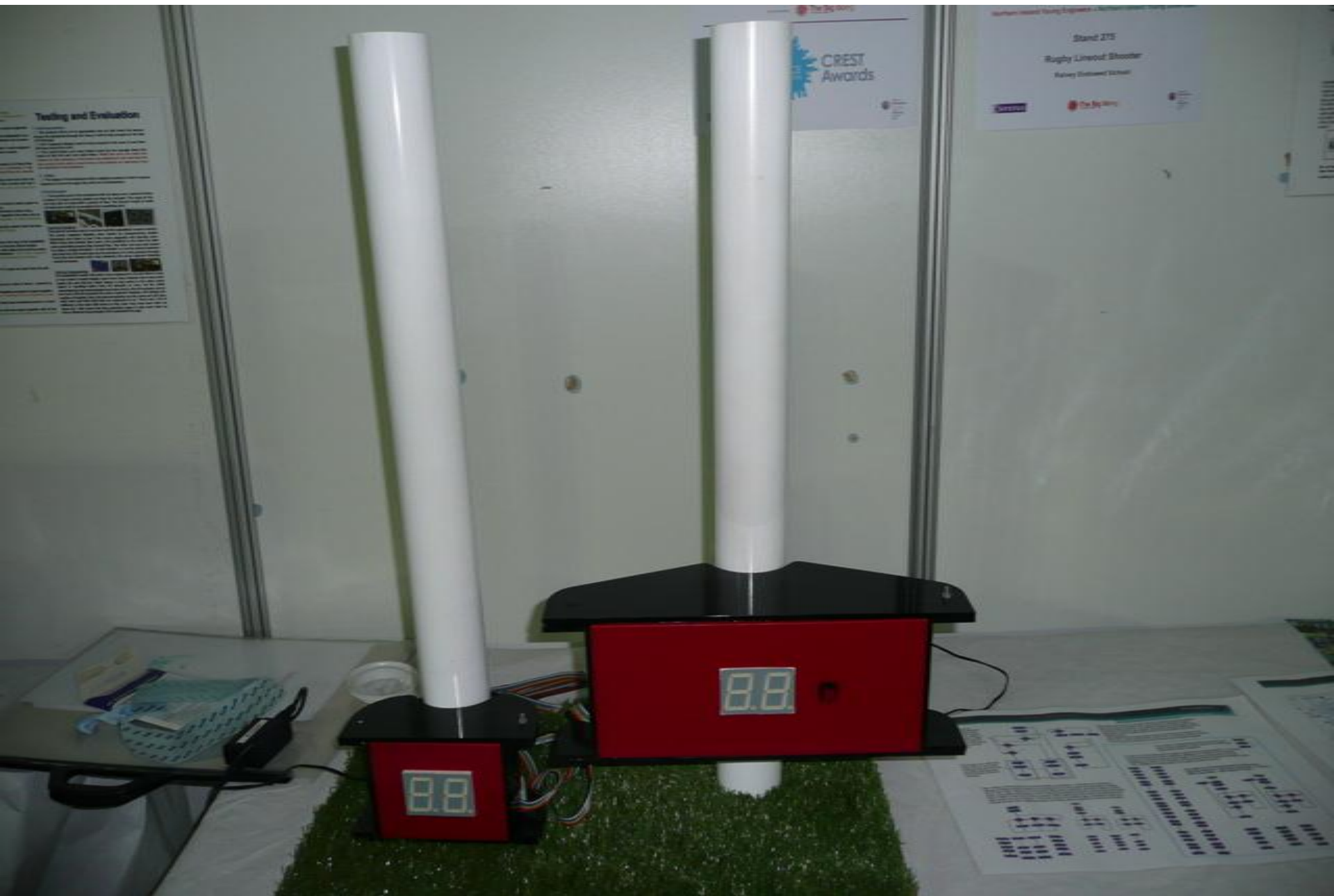
This is the circuit used to control the radio receiver module. IC2 is the Radio receiver component itself. When it receives a signal transmitted from one of the transmitters of the set frequency it will light up the corresponding LEDs (D4, D5, D6, and D7).

When using the test radio circuit in the ideas section, I found that the length of the aerial directly affects the range of the receiver. That is why I have included a switch on the aerial which means when the switch is open it limits the range to a small distance e.g. 10m, but when the switch is on then I open the aerial to maximum range and with the "faraday shield" outlined earlier, it allows the child to be tracked over a large distance.

Complete Circuit

The circuit will be built using a PIC16F877A as this chip has the capacity to hold a much larger program which will be needed to program the commands outlined in the receiver flow chart on page 11. The PIC16F877A chip is then integrated into the circuit above to give a final circuit which includes all the components outlined in the flow chart. The PIC16F877A can then be programmed to carry out the required tasks.





Testing and Evaluation

Testing and Evaluation

The purpose of this section is to provide a detailed account of the testing and evaluation process. This includes a description of the test cases, the test environment, and the results of the testing. The test cases are designed to verify the functionality of the system and to ensure that it meets the requirements. The test environment is a controlled environment that allows for the execution of the test cases. The results of the testing are presented in a clear and concise manner, highlighting any issues that were identified and the steps taken to resolve them.

The Big Bang

CREST Awards

Northumbria Young Engineers

Stand 275

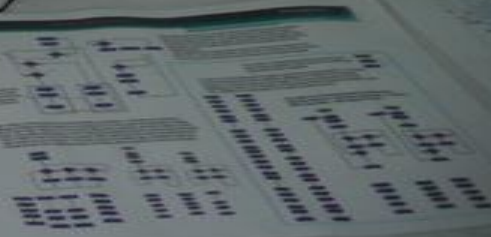
Rugby Lineout Shooter

Harvey Goodwood School

Northumbria

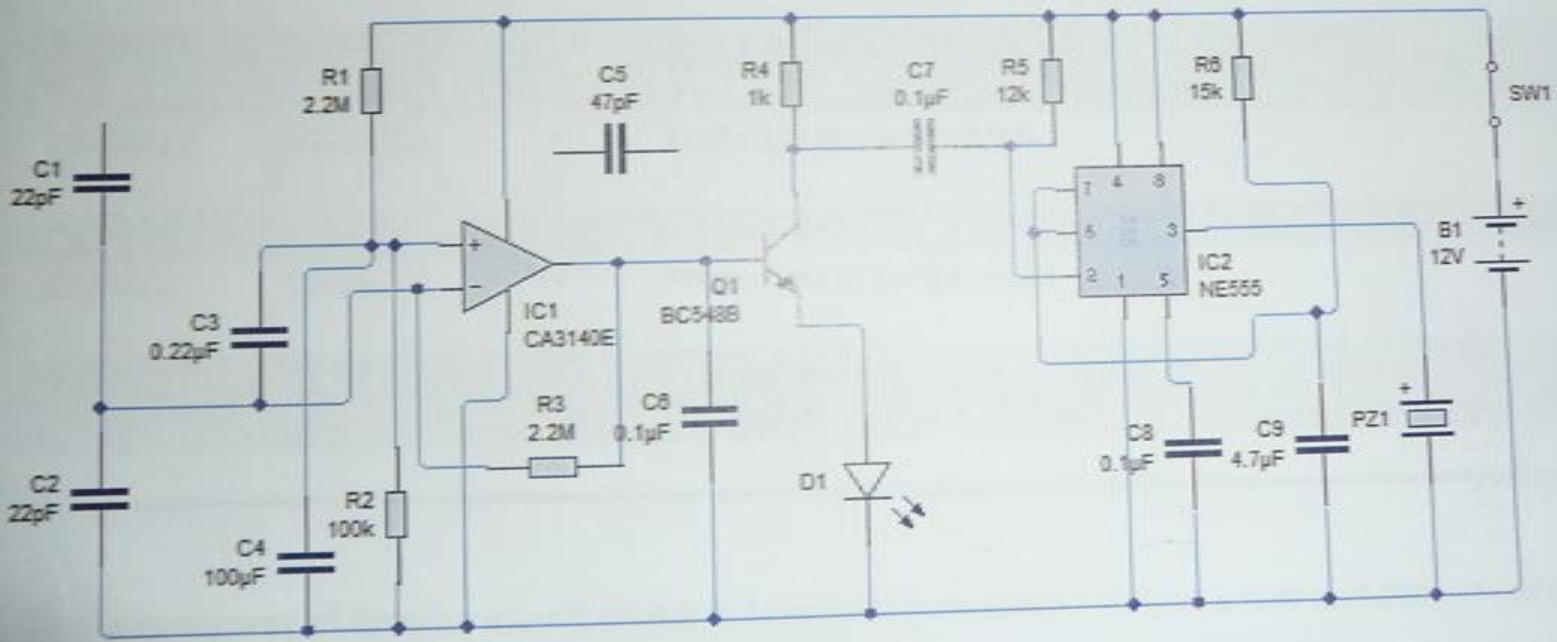
The Big Bang

Northumbria



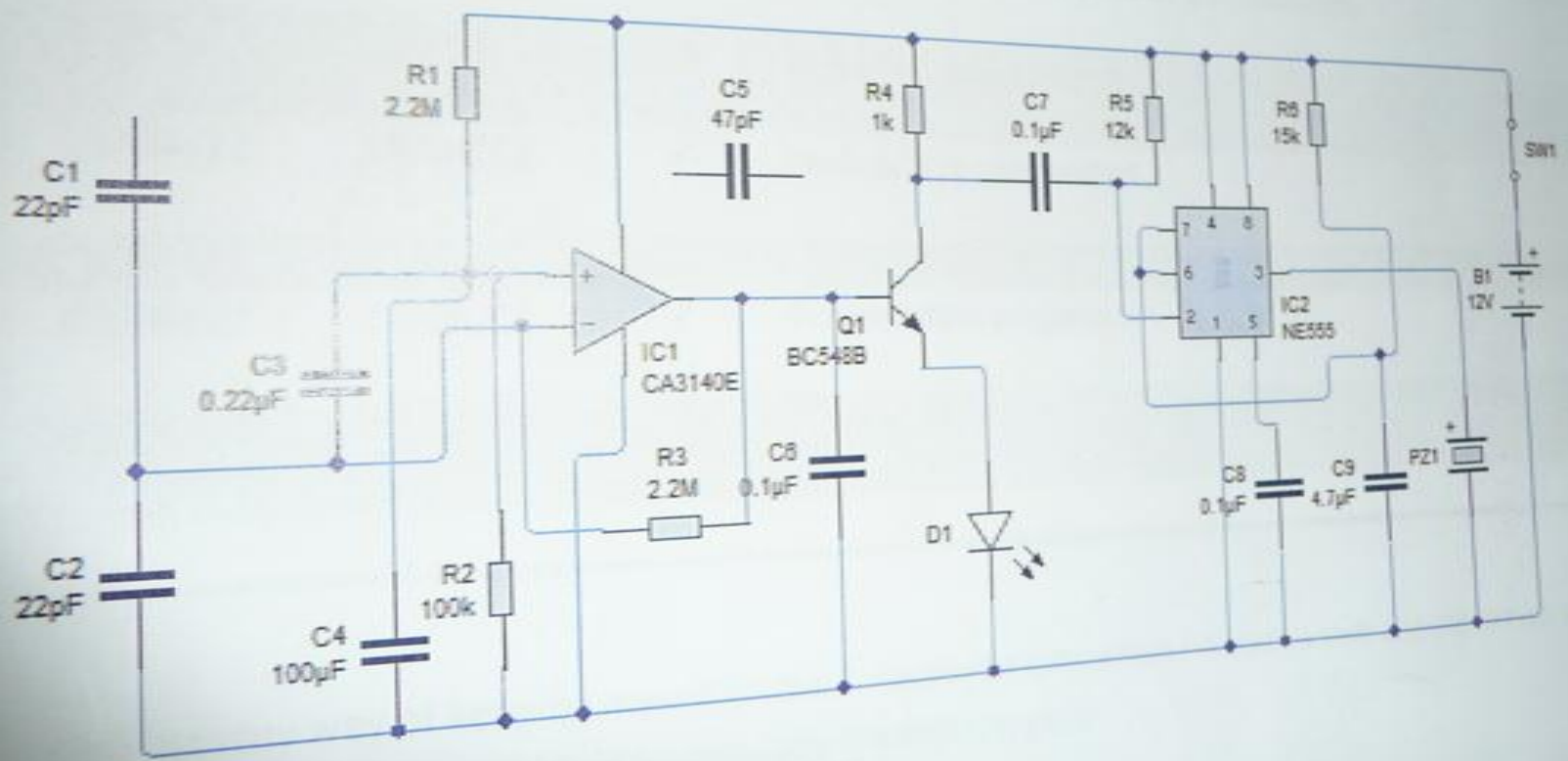
This (Diagram One) shows the final design for my outer casing, as I have said it is to be both basic and small.

Circuit One



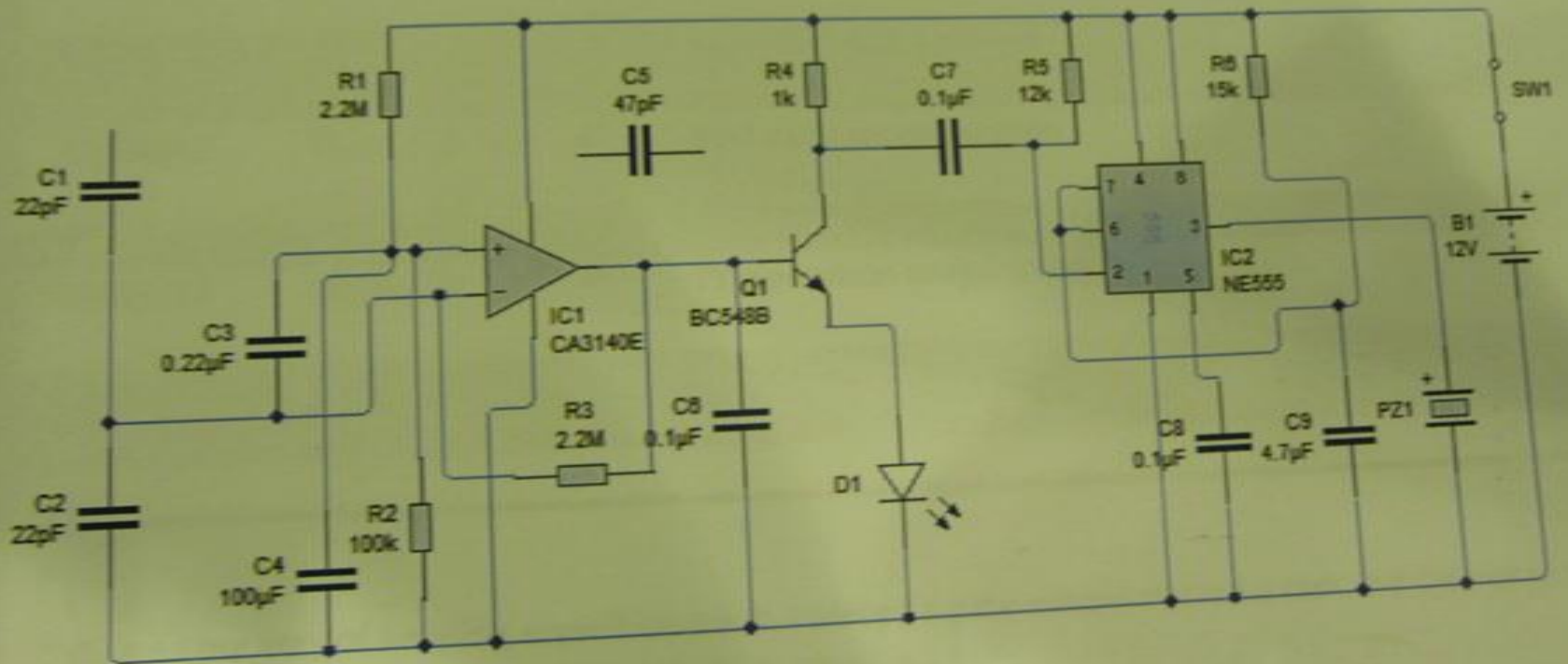
...using, as I have said it is to be both basic

Circuit One



and small.

Circuit One













CONCEPTS & COMMITMENT

CONCEPTS

TESTING AND EVALUATION

DEVELOPMENT

PROJECT TEAM

software development: Introduction

manufacture & software development

POWER TO THE PEOPLE

dual-axis solar tracking
rowen griffin

THE KEY IS SOLAR ENERGY

further software development

Initial ideas: concept sketches

hardware development

production

product development

This poster illustrates the product development process. It includes two Gantt charts showing task scheduling over time. The top chart shows a sequence of tasks in various colors (red, yellow, blue, green) with arrows indicating dependencies. The bottom chart is similar but with different task durations. To the right, there are 3D CAD models of a mechanical component, including a perspective view and a top-down view, along with smaller diagrams of manufacturing processes like injection molding.

further software development

This poster focuses on software development. It features several flowcharts and technical diagrams. One diagram shows a sequence of steps with arrows, while another shows a more complex flow with multiple paths. There are also smaller diagrams of software components and data structures. The layout is organized into several columns of text and graphics.

manufacture & testing

This poster covers manufacturing and testing. It displays a variety of manufacturing tools and equipment, such as lathes, mills, and drilling machines. There are also diagrams of testing procedures, including stress tests and quality control checks. The poster is filled with small images and diagrams illustrating different aspects of the manufacturing and testing process.

product development

This poster provides a detailed look at product development. It features multiple 3D CAD models of a mechanical part from different angles. There are also technical drawings, including cross-sections and detail views. The poster is densely packed with technical information and visual representations of the product design process.







Final Program

10:00	10:15	10:30	10:45
11:00	11:15	11:30	11:45
12:00	12:15	12:30	12:45
13:00	13:15	13:30	13:45
14:00	14:15	14:30	14:45
15:00	15:15	15:30	15:45
16:00	16:15	16:30	16:45
17:00	17:15	17:30	17:45

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problem identification and market research



Testing



research



6 Alarm Clock - Voice Alarm



"THE INVISIBLE CLOCK"

£39.95

Function- the function of this product is to sound and alarm whenever the person is due to take...

"E-PILL MED CENTER"

£54.95

Function- the function of this device is to allow the customer to set up to six alarms...

CADEK WATCH PENDANT

£9.95

Function- the function of this device is to...

