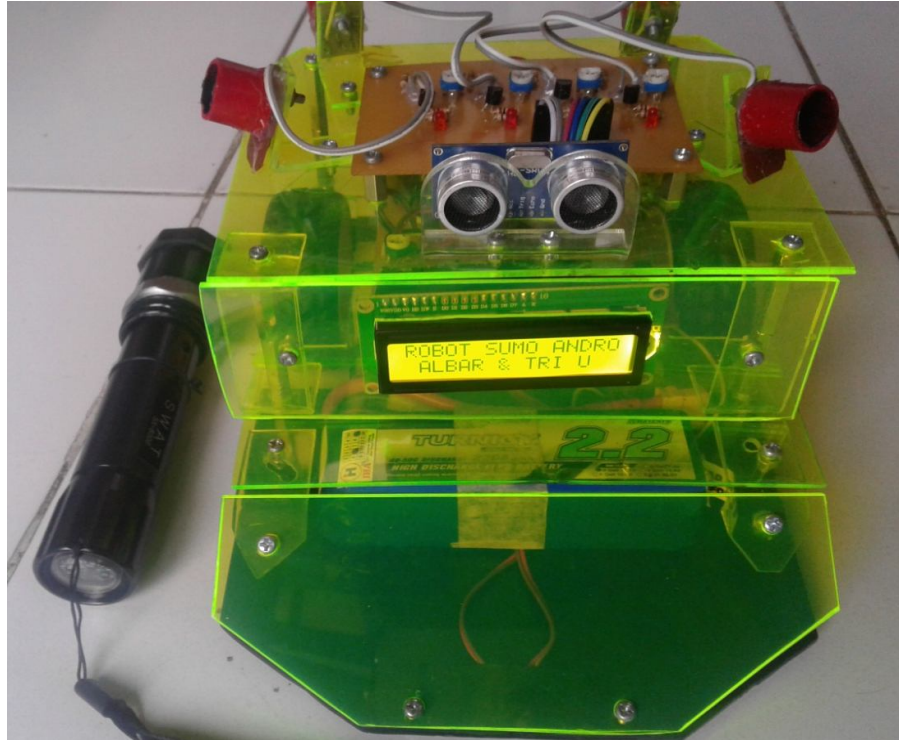
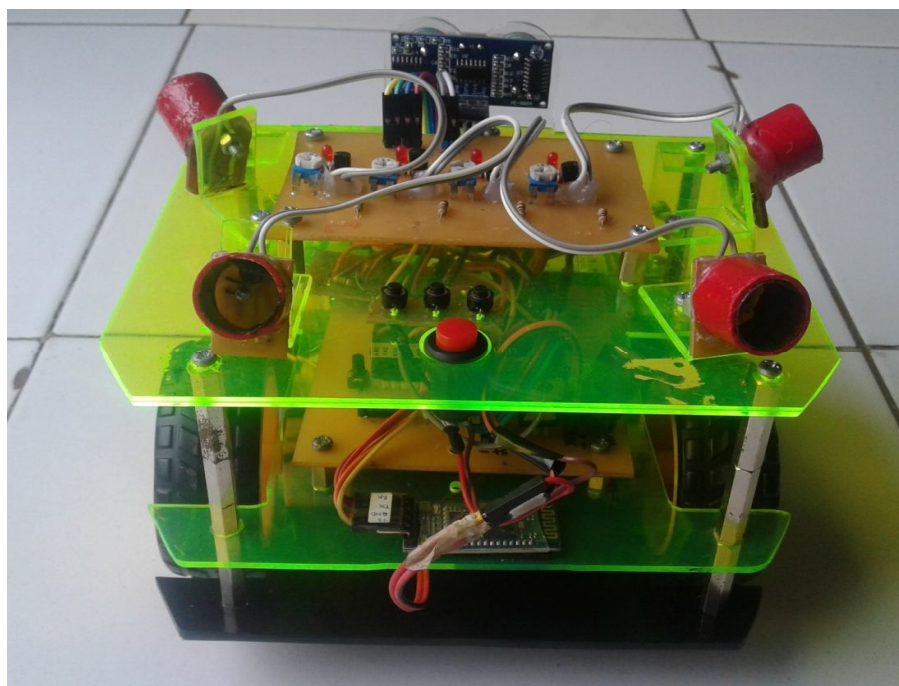


LAMPIRAN



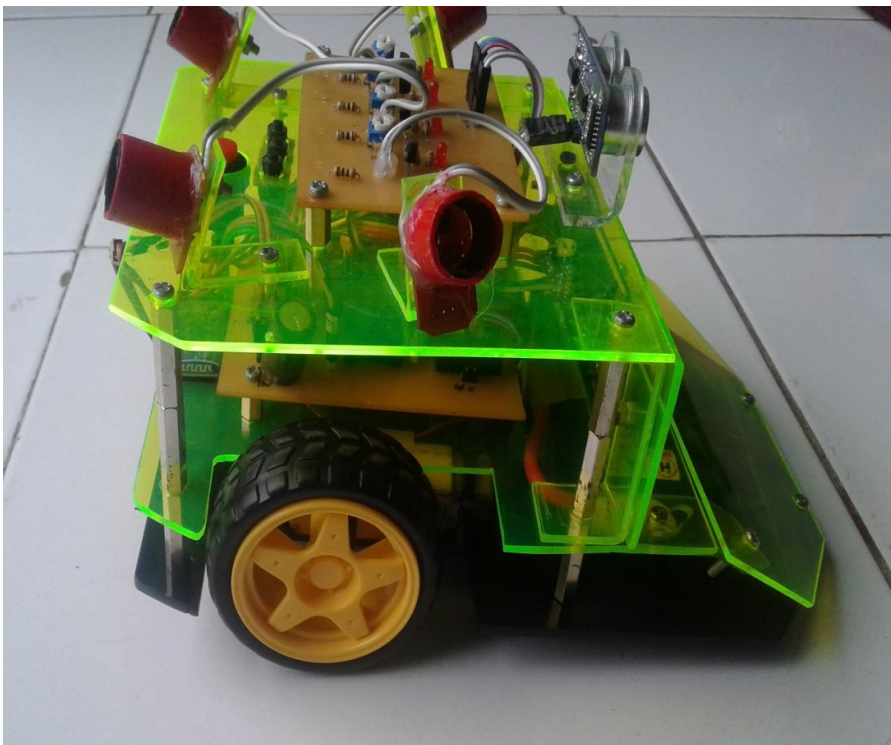
Gambar 1. Robot Petarung Tampak Depan



Gambar 2. Robot Petarung Tampak Belakang



Gambar 3. Robot Petarung Tampak Samping Kiri



Gambar 4. Robot Petarung Tampak Samping Kanan

LAMPIRAN KODE PROGRAM

```
'inisialisasi mikro
$regfile = "m8535.dat"
$crystal = 12000000
$baud = 9600
$large
```

```
'inisialisasi lcd
Config Portb = Output
Config Lcdpin = Pin , Db4 = Portb.3 , Db5 = Portb.2 , Db6 = Portb.1 , Db7 = Portb.0 , E
= Portb.4 , Rs = Portb.5
Config Lcd = 16 * 2
Cursor Off
```

```
'inisialisasi sensor cahaya dan variabelnya
Config Adc = Single , Prescaler = Auto , Reference = Internal
Dim S_maju As Word , S_mundur As Word , S_kiri As Word , S_kanan As Word
```

```
'inisialisasi sensor jarak dan variabelnya
Config Portc.3 = Input
Config Portc.4 = Output
Ech Alias Pinc.3
Trig Alias Portc.4
Portc.3 = 1
Dim Waktu As Long
Dim Jarak As Single
Dim Jarak2 As Word
```

```
'motor kiri dan motor kanan
En1 Alias Portc.7
In1 Alias Portc.6
In2 Alias Portc.5
En2 Alias Portc.2
In3 Alias Portc.1
In4 Alias Portc.0
```

```
'sensor garis
Config Portd.7 = Input
S_garis Alias Pind.7
```

```
'tombol mode
Config Portd.3 = Input
Config Portd.4 = Input
Config Portd.5 = Input
T_otomatis Alias Pind.3
T_senter Alias Pind.4
T_hp Alias Pind.5
```

```

Portd.3 = 1
Portd.4 = 1
Portd.5 = 1
Dim A As Byte , B As Byte

```

```

Cls
Locate 1 , 1
Lcd "ROBOT SUMO ANDROID"
Locate 2 , 1
Lcd " ALBAR & TRI U"
Wait 3

```

```
'program utama
```

```
Utama:
```

```

Cls
T_otomatis = 1
T_senter = 1
T_hp = 1
Waitms 500
Do
    Locate 1 , 3
    Lcd "MENU KENDALI"
    Locate 2 , 6
    Lcd T_otomatis ; " " ; T_senter ; " " ; T_hp
    If T_otomatis = 0 Then Gosub Otomatis
    If T_senter = 0 Then Gosub Manual_senter
    If T_hp = 0 Then Gosub Manual_hp

```

```
Loop
```

```
Otomatis:
```

```

Do
    Cls
    Locate 1 , 3
    Lcd "MODE OTOMATIS"
    Wait 1
    Cls
    Go:
    'SCAN MUSUH
    Gosub Baca_sensor_jarak
    Do
        En1 = 1
        In1 = 0
        In2 = 1
        En2 = 1
        In3 = 0
        In4 = 1
    Loop Until S_garis = 1
    Gosub Mundur
    Waitms 500

```

```
' kena garis hitam nilai sensor 1
```

```

    Gosub Kiri
    Waitms 250
    Goto Go
Loop Until T_otomatis = 0
Goto Utama
Return
Baca_sensor_jarak:
For B = 1 To 250
    Trig = 0
    Waitms 100
    Trig = 1
    Waitus 10
    Trig = 0
    Bitwait Ech , Set
    Waktu = 0
    Do
        Incr Waktu
        Waitus 1
    Loop Until Ech = 0
    Locate 1 , 1
    Jarak = 0.119 * Waktu
    Jarak = Jarak + 0.049
    Jarak2 = Jarak - 3
    Locate 1 , 1
    Lcd "Jarak:" ; Jarak2 ; " " ; "S:" ; S_garis ; " "
    Locate 2 , 1
    Lcd Waktu ; " US"
    If Jarak2 < 45 Then Exit For
    If T_otomatis = 0 Then Goto Utama
    Gosub Kanan
    Waitms 100
    En1 = 0
    En2 = 0
    Waitms 500
Next
Return

```

Manual_senter:

```

Cls
Locate 1 , 3
Lcd "MODE SENTER"
Wait 1
Do
    Start Adc
    S_kiri = Getadc(0)
    S_maju = Getadc(1)
    S_mundur = Getadc(2)
    S_kanan = Getadc(3)
    Waitus 1

```

```

Cls
Locate 1 , 1
Lcd S_kiri ; " " ; S_maju ; " "
Locate 2 , 1
Lcd S_mundur ; " " ; S_kanan
If S_maju > 500 Then
    Gosub Maju
Elseif S_kanan > 500 Then
    Gosub Kanan
Elseif S_kiri > 500 Then
    Gosub Kiri
Elseif S_mundur > 500 Then
    Gosub Mundur
Else
    Gosub Berhenti
End If
Waitms 100
Loop Until T_senter = 0
Wait 1
Goto Utama
Return

```

Manual_hp:

```

Cls
Locate 1 , 3
Lcd "MODE ANDROID"
Wait 1
Do
    A = Inkey()
    If A = 70 Then
        Gosub Maju
        Locate 2 , 1
        Lcd "Robot Maju"
    Elseif A = 66 Then
        Gosub Mundur
        Locate 2 , 1
        Lcd "Robot Mundur"
    Elseif A = 76 Then
        Gosub Kiri
        Locate 2 , 1
        Lcd "Robot Ke Kiri"
    Elseif A = 82 Then
        Gosub Kanan
        Locate 2 , 1
        Lcd "Robot Ke Kanan"
    Else
        Gosub Berhenti
        Locate 2 , 1
        Lcd "Robot Berhenti"
    End If
Loop

```

End If
Loop Until T_hp = 0
Waitms 500
Goto Utama
Return

Maju:

En1 = 1
In1 = 0
In2 = 1
En2 = 1
In3 = 0
In4 = 1
Return

Mundur:

En1 = 1
In1 = 1
In2 = 0
En2 = 1
In3 = 1
In4 = 0
Return

Kiri:

En1 = 1
In1 = 1
In2 = 0
En2 = 1
In3 = 0
In4 = 1
Return

Kanan:

En1 = 1
In1 = 0
In2 = 1
En2 = 1
In3 = 1
In4 = 0
Return

Berhenti:

En1 = 0
En2 = 0
Return