LAMPIRAN A
PROGRAM PADA CODE VISION AVR

```
/*****************************
This program was produced by the
CodeWizardAVR V1.25.3 Standard
Automatic Program Generator
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HP InfoTech s.r.l.
http://www.hpinfotech.com

Project :
Version :
Date    : 6/1/2004
Author  : Riyan
Company : Indonesia
Comments:

Chip type           : ATmega8535L
Program type        : Application
Clock frequency     : 11.059200 MHz
Memory model        : Small
External SRAM size  : 0
Data Stack size     : 128
*****************************/

#include <mega8535.h>

#define RXB8 1
#define TXB8 0
#define UPE 2
#define OVR 3
#define FE 4
#define UDRE 5
#define RXC 7

#define FRAMING_ERROR (1<<FE)
#define PARITY_ERROR (1<<UPE)
#define DATA_OVERRUN (1<<OVR)
#define DATA_REGISTER_EMPTY (1<<UDRE)
#define RX_COMPLETE (1<<RXC)

void lampu_dekat(void)
{
OCR0=50;
OCR2=50;
}

void stop_lampu_dekat(void)
{
OCR0=0;
OCR2=0;
}

void lampu_jauh(void)
{
OCR0=255;
OCR2=255;
}

void stop_lampu_jauh(void)
{
OCR0=0;
OCR2=0;
}

void maju(void)
{
 PORTB.0=1;
```

```
 PORTB.1=0;
 PORTB.4=1;
 PORTB.5=0;
}

void mundur(void)
{
 PORTB.0=0;
 PORTB.1=1;
 PORTB.4=0;
 PORTB.5=1;
}

void kiri(void)
{
 PORTB.0=1;
 PORTB.1=1;
 PORTB.4=1;
 PORTB.5=0;
}

void kanan(void)
{
 PORTB.0=1;
 PORTB.1=0;
 PORTB.4=1;
 PORTB.5=1;
}

void diam(void)
{
stop_lampu_dekat();
stop_lampu_jauh();
 PORTB.0=0;
 PORTB.1=0;
 PORTB.4=0;
 PORTB.5=0;
}

// USART Receiver buffer
#define RX_BUFFER_SIZE 8
char rx_buffer[RX_BUFFER_SIZE];

#if RX_BUFFER_SIZE<256
unsigned char rx_wr_index,rx_rd_index,rx_counter;
#else
unsigned int rx_wr_index,rx_rd_index,rx_counter;
#endif

// This flag is set on USART Receiver buffer overflow
bit rx_buffer_overflow;

// USART Receiver interrupt service routine
interrupt [USART_RXC] void usart_rx_isr(void)
{
char status,data;
status=UCSRA;
data=UDR;
if ((status & (FRAMING_ERROR | PARITY_ERROR | DATA_OVERRUN))==0)
   {
   rx_buffer[rx_wr_index]=data;
```

```
  if (++rx_wr_index == RX_BUFFER_SIZE) rx_wr_index=0;
  if (++rx_counter == RX_BUFFER_SIZE)
    {
    rx_counter=0;
    rx_buffer_overflow=1;
    };
if(data=='f')
     {
      maju();
     }
     else if(data=='b')
     {
      mundur();
     }
     else if(data=='r')
     {
      kiri();
     }
     else if(data=='l')
     {
      kanan();
     }
     else if(data=='s')
     {
      diam();
     }
     else if(data=='a')
     {
      lampu_dekat();
     }
     else if(data=='d')
     {
      lampu_jauh();
     }
   };
}

#ifndef _DEBUG_TERMINAL_IO_
// Get a character from the USART Receiver buffer
#define _ALTERNATE_GETCHAR_
#pragma used+
char getchar(void)
{
char data;
while (rx_counter==0);
data=rx_buffer[rx_rd_index];
if (++rx_rd_index == RX_BUFFER_SIZE) rx_rd_index=0;
#asm("cli")
--rx_counter;
#asm("sei")
return data;
}
#pragma used-
#endif

// Standard Input/Output functions
#include <stdio.h>

// Declare your global variables here
void main(void)
{
// Declare your local variables here

// Input/Output Ports initialization
```

```
// Port A initialization
// Func7=In Func6=In Func5=In Func4=In Func3=In Func2=In Func1=In Func0=In
// State7=T State6=T State5=T State4=T State3=T State2=T State1=T State0=T
PORTA=0x00;
DDRA=0xFF;

// Port B initialization
// Func7=Out Func6=Out Func5=Out Func4=Out Func3=Out Func2=Out Func1=Out Func0=Out
// State7=0 State6=0 State5=0 State4=0 State3=0 State2=0 State1=0 State0=0
PORTB=0x00;
DDRB=0xFF;

// Port C initialization
// Func7=In Func6=In Func5=In Func4=In Func3=In Func2=In Func1=In Func0=In
// State7=T State6=T State5=T State4=T State3=T State2=T State1=T State0=T
PORTC=0xFF;
DDRC=0xFF;

// Port D initialization
// Func7=Out Func6=Out Func5=Out Func4=Out Func3=Out Func2=Out Func1=Out Func0=Out
// State7=0 State6=0 State5=0 State4=0 State3=0 State2=0 State1=0 State0=0
PORTD=0x00;
DDRD=0x7F;

// Timer/Counter 0 initialization
// Clock source: System Clock
// Clock value: Timer 0 Stopped
// Mode: Normal top=FFh
// OC0 output: Disconnected
TCCR0=0x61;
TCNT0=0x00;
OCR0=0x00;

// Timer/Counter 1 initialization
// Clock source: System Clock
// Clock value: 11059.200 kHz
// Mode: Ph. correct PWM top=00FFh
// OC1A output: Inverted
// OC1B output: Inverted
// Noise Canceler: Off
// Input Capture on Falling Edge
// Timer 1 Overflow Interrupt: Off
// Input Capture Interrupt: Off
// Compare A Match Interrupt: Off
// Compare B Match Interrupt: Off
TCCR1A=0xF1;
TCCR1B=0x01;
TCNT1H=0x00;
TCNT1L=0x00;
ICR1H=0x00;
ICR1L=0x00;
OCR1AH=0x00;
OCR1AL=20;
```

```
OCR1BH=0x00;
OCR1BL=20;

// Timer/Counter 2 initialization
// Clock source: System Clock
// Clock value: Timer 2 Stopped
// Mode: Normal top=FFh
// OC2 output: Disconnected
ASSR=0x00;
TCCR2=0x61;
TCNT2=0x00;
OCR2=0x00;

// External Interrupt(s) initialization
// INT0: Off
// INT1: Off
// INT2: Off
MCUCR=0x00;
MCUCSR=0x00;

// Timer(s)/Counter(s) Interrupt(s)
initialization
TIMSK=0x00;

// USART initialization
// Communication Parameters: 8 Data,
1 Stop, No Parity
// USART Receiver: On
// USART Transmitter: On
// USART Mode: Asynchronous
// USART Baud rate: 9600
UCSRA=0x00;
UCSRB=0x98;
UCSRC=0x86;
UBRRH=0x00;
UBRRL=0x47;

// Analog Comparator initialization
// Analog Comparator: Off
// Analog Comparator Input Capture by
Timer/Counter 1: Off
ACSR=0x80;
SFIOR=0x00;

// Global enable interrupts
#asm("sei")

while (1)
      {
      // Place your code here

      };
}
```

LAMPIRAN B
PROGRAM PADA ECLIPSE

Folder source.java pada eclipse

MainActivity.Java

```
package com.example.bluetooth1;

import java.io.IOException;
import java.io.OutputStream;
import java.lang.reflect.Method;
import java.util.UUID;

import com.example.bluetooth1.R;

import android.app.Activity;
import
android.bluetooth.BluetoothAdapter
;
import
android.bluetooth.BluetoothDevice;
import
android.bluetooth.BluetoothSocket;
import android.content.Intent;
import android.os.Build;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import
android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends
Activity {
  private static final String TAG
= "bluetooth1";

  Button
LampuJauh,LampuDekat,Kiri,Kanan,Ma
ju,Mundur,Berhenti;

  private BluetoothAdapter
btAdapter = null;
  private BluetoothSocket btSocket
= null;
  private OutputStream outStream =
null;

  // SPP UUID service
  private static final UUID
MY_UUID =
UUID.fromString("00001101-0000-
1000-8000-00805F9B34FB");

  // MAC-address of Bluetooth
module
  private static String address =
"00:19:5D:EE:27:85";

  /** Called when the activity is
first created. */
  @Override
  public void onCreate(Bundle
savedInstanceState) {

super.onCreate(savedInstanceState)
;


setContentView(R.layout.activity_m
ain);

    LampuJauh = (Button)
findViewById(R.id.button2);
    LampuDekat = (Button)
findViewById(R.id.button3);
    Kiri = (Button)
findViewById(R.id.button7);
    Kanan = (Button)
findViewById(R.id.button8);
    Maju = (Button)
findViewById(R.id.button4);
    Mundur = (Button)
findViewById(R.id.button5);
    Berhenti = (Button)
findViewById(R.id.button6);

    btAdapter =
BluetoothAdapter.getDefaultAdapter
();
    checkBTState();


LampuJauh.setOnClickListener(new
OnClickListener() {
      public void onClick(View v)
{
        sendData("d");

Toast.makeText(getBaseContext(),
"Pengaktifan Lampu Jauh",
Toast.LENGTH_SHORT).show();
      }
    });


LampuDekat.setOnClickListener(new
OnClickListener() {
      public void onClick(View v)
{
        sendData("a");

Toast.makeText(getBaseContext(),
"Pengaktifan Lampu Dekat",
Toast.LENGTH_SHORT).show();
```

```
      }
    });

    Kiri.setOnClickListener(new
OnClickListener() {
        public void onClick(View
v) {
          sendData("r");

Toast.makeText(getBaseContext(),
"Belok Kiri",
Toast.LENGTH_SHORT).show();
        }
      });

    Kanan.setOnClickListener(new
OnClickListener() {
        public void onClick(View
v) {
          sendData("l");

Toast.makeText(getBaseContext(),
"Belok Kanan",
Toast.LENGTH_SHORT).show();
        }
      });

    Maju.setOnClickListener(new
OnClickListener() {
        public void onClick(View
v) {
          sendData("f");

Toast.makeText(getBaseContext(),
"Bergerak Maju",
Toast.LENGTH_SHORT).show();
        }
      });

    Mundur.setOnClickListener(new
OnClickListener() {
        public void onClick(View
v) {
          sendData("b");

Toast.makeText(getBaseContext(),
"Bergerak Mundur",
Toast.LENGTH_SHORT).show();
        }
      });


Berhenti.setOnClickListener(new
OnClickListener() {
        public void onClick(View
v) {
          sendData("s");

Toast.makeText(getBaseContext(),
"Berhenti Bergerak",
Toast.LENGTH_SHORT).show();
        }
      });
  }

  private BluetoothSocket
createBluetoothSocket(BluetoothDev
ice device) throws IOException {
      if(Build.VERSION.SDK_INT >=
10){
          try {
              final Method  m =
device.getClass().getMethod("creat
eInsecureRfcommSocketToServiceReco
rd", new Class[] { UUID.class });
              return
(BluetoothSocket) m.invoke(device,
MY_UUID);
          } catch (Exception e) {
              Log.e(TAG, "Could
not create Insecure RFComm
Connection",e);
          }
      }
      return
device.createRfcommSocketToService
Record(MY_UUID);
  }

  @Override
  public void onResume() {
    super.onResume();

    Log.d(TAG, "...onResume - try
connect...");

    // Set up a pointer to the
remote node using it's address.
    BluetoothDevice device =
btAdapter.getRemoteDevice(address)
;

    // Two things are needed to
make a connection:
    //   A MAC address, which we
got above.
    //   A Service ID or UUID.  In
this case we are using the
    //     UUID for SPP.

      try {
            btSocket =
createBluetoothSocket(device);
      } catch (IOException e1) {
            errorExit("Fatal
Error", "In onResume() and socket
create failed: " + e1.getMessage()
+ ".");
```

```
      }

    // Discovery is resource
intensive.  Make sure it isn't
going on
    // when you attempt to connect
and pass your message.
    btAdapter.cancelDiscovery();

    // Establish the connection.
This will block until it connects.
    Log.d(TAG,
"...Connecting...");
    try {
      btSocket.connect();
      Log.d(TAG, "...Connection
ok...");
    } catch (IOException e) {
      try {
        btSocket.close();
      } catch (IOException e2) {
        errorExit("Fatal Error",
"In onResume() and unable to close
socket during connection failure"
+ e2.getMessage() + ".");
      }
    }

    // Create a data stream so we
can talk to server.
    Log.d(TAG, "...Create
Socket...");

    try {
      outStream =
btSocket.getOutputStream();
    } catch (IOException e) {
      errorExit("Fatal Error", "In
onResume() and output stream
creation failed:" + e.getMessage()
+ ".");
    }
  }

  @Override
  public void onPause() {
    super.onPause();

    Log.d(TAG, "...In
onPause()...");

    if (outStream != null) {
      try {
        outStream.flush();
      } catch (IOException e) {
        errorExit("Fatal Error",
"In onPause() and failed to flush
output stream: " + e.getMessage()
+ ".");
      }
    }

    try     {
      btSocket.close();
    } catch (IOException e2) {
      errorExit("Fatal Error", "In
onPause() and failed to close
socket." + e2.getMessage() + ".");
    }
  }

  private void checkBTState() {
    // Check for Bluetooth support
and then check to make sure it is
turned on
    // Emulator doesn't support
Bluetooth and will return null
    if(btAdapter==null) {
      errorExit("Fatal Error",
"Bluetooth not support");
    } else {
      if (btAdapter.isEnabled()) {
        Log.d(TAG, "...Bluetooth
ON...");
      } else {
        //Prompt user to turn on
Bluetooth
        Intent enableBtIntent =
new
Intent(BluetoothAdapter.ACTION_REQ
UEST_ENABLE);

startActivityForResult(enableBtInt
ent, 1);
      }
    }
  }

  private void errorExit(String
title, String message){

Toast.makeText(getBaseContext(),
title + " - " + message,
Toast.LENGTH_LONG).show();
    finish();
  }

  private void sendData(String
message) {
    byte[] msgBuffer =
message.getBytes();

    Log.d(TAG, "...Send data: " +
message + "...");

    try {
      outStream.write(msgBuffer);
    } catch (IOException e) {
```

```
      String msg = "In onResume() and an exception occurred during write: " + e.getMessage();
      if (address.equals("00:00:00:00:00:00"))
        msg = msg + ".\n\nUpdate your server address from 00:00:00:00:00:00 to the correct address on line 35 in the java code";
       msg = msg +  ".\n\nCheck that the SPP UUID: " + MY_UUID.toString() + " exists on server.\n\n";

       errorExit("Kerusakan Fatal!!!", msg);
    }
  }
}
```

Folder gen (Generated Java File) pada eclipse

I.BuildConfig.Java

```
/** Automatically generated file. DO NOT MODIFY */
package com.example.bluetooth1;

public final class BuildConfig {
    public final static boolean DEBUG = true;
}
```

II.R.Java

```
/* AUTO-GENERATED FILE.  DO NOT MODIFY.
 *
 * This class was automatically generated by the
 * aapt tool from the resource data it found.  It
 * should not be modified by hand.
 */

package com.example.bluetooth1;

public final class R {
    public static final class attr {
    }
    public static final class drawable {
        public static final int ic_action_search=0x7f020000;
        public static final int ic_launcher=0x7f020001;
    }
    public static final class id {
        public static final int button2=0x7f060002;
        public static final int button3=0x7f060003;
        public static final int button4=0x7f060008;
        public static final int button5=0x7f060009;
        public static final int button6=0x7f06000a;
        public static final int button7=0x7f060005;
        public static final int button8=0x7f060006;
        public static final int tableLayout1=0x7f060000;
        public static final int tableRow1=0x7f060001;
        public static final int tableRow2=0x7f060004;
        public static final int tableRow4=0x7f060007;
    }
    public static final class layout {
        public static final int activity_main=0x7f030000;
    }
    public static final class string {
        public static final int Berhenti=0x7f040008;
        public static final int Kanan=0x7f040005;
        public static final int Kiri=0x7f040004;
        public static final int LampuDekat=0x7f040003;
        public static final int LampuJauh=0x7f040002;
        public static final int Maju=0x7f040006;
        public static final int Mundur=0x7f040007;
        public static final int app_name=0x7f040000;
        public static final int title_activity_main=0x7f040001;
    }
    public static final class style {
```

```
        public static final int
AppTheme=0x7f050000;
    }
}
```

Subfolder res

(Generated Java File)

pada eclipse

I.Folder Layout(Potrait)

Acticity_main.XML

```
<TableLayout
xmlns:android="http://schemas.andr
oid.com/apk/res/android"
    android:id="@+id/tableLayout1"

android:layout_width="fill_parent"

android:layout_height="fill_parent
" >


    <TableRow

android:id="@+id/tableRow1"

android:layout_width="wrap_content
"

android:layout_height="wrap_conten
t"
        android:padding="3dip" >
    <Button
        android:id="@+id/button2"

android:layout_width="295dp"

android:layout_height="150dp"
        android:text="Lampu Jauh"
/>
    <Button
        android:id="@+id/button3"

android:layout_width="295dp"

android:layout_height="150dp"
        android:text="Lampu Dekat"
/>
    </TableRow>
    <!-- edittext span 2 column --
>
    <TableRow

android:id="@+id/tableRow2"

android:layout_width="wrap_content
"

android:layout_height="wrap_conten
t"
        android:padding="3dip" >
    <Button
        android:id="@+id/button7"

android:layout_width="295dp"

android:layout_height="150dp"
        android:text="Kiri" />
    <Button
        android:id="@+id/button8"

android:layout_width="295dp"

android:layout_height="150dp"
        android:text="Kanan" />
    </TableRow>
    <TableRow

android:id="@+id/tableRow4"

android:layout_width="wrap_content
"

android:layout_height="wrap_conten
t"
        android:padding="3dip" >
    <Button
        android:id="@+id/button4"

android:layout_width="295dp"

android:layout_height="150dp"
        android:text="Maju" />
    <Button
        android:id="@+id/button5"

android:layout_width="295dp"

android:layout_height="150dp"
        android:text="Mundur" />
    </TableRow>
    <Button
        android:id="@+id/button6"

android:layout_width="wrap_content
"
```

```
android:layout_height="200dp"
        android:text="Berhenti" />

</TableLayout>
```

II.Folder Layout(Landscape) Acticity_main.XML

```
<?xml version="1.0" encoding="utf-
8"?>
<TableLayout
xmlns:android="http://schemas.andr
oid.com/apk/res/android"
    android:id="@+id/tableLayout1"

android:layout_width="wrap_content
"

android:layout_height="fill_parent
" >

    <TableRow

android:id="@+id/tableRow1"

android:layout_width="500dp"

android:layout_height="80dp"

android:baselineAligned="false"
        android:padding="3dip" >

        <Button

android:id="@+id/button2"

android:layout_width="500dp"

android:layout_height="80dp"
            android:text="Lampu
Jauh" />

        <Button

android:id="@+id/button3"

android:layout_width="500dp"

android:layout_height="80dp"
            android:text="Lampu
Dekat" />

    </TableRow>
    <!-- edittext span 2 column --
>

    <TableRow

android:id="@+id/tableRow2"

android:layout_width="500dp"

android:layout_height="80dp"
        android:padding="3dip" >

        <Button

android:id="@+id/button7"

android:layout_width="500dp"

android:layout_height="80dp"
            android:text="Kiri" />

        <Button

android:id="@+id/button8"

android:layout_width="500dp"

android:layout_height="80dp"
            android:text="Kanan"
/>
    </TableRow>

    <TableRow

android:id="@+id/tableRow4"

android:layout_width="500dp"

android:layout_height="80dp"
        android:padding="3dip" >

        <Button

android:id="@+id/button4"

android:layout_width="500dp"

android:layout_height="80dp"
            android:text="Maju" />

        <Button

android:id="@+id/button5"

android:layout_width="500dp"

android:layout_height="80dp"
```

```
            android:text="Mundur"
/>
    </TableRow>

    <Button
        android:id="@+id/button6"

android:layout_width="500dp"

android:layout_height="80dp"
        android:text="Berhenti" />

</TableLayout>
```

III.Folder Values

A.strings_main.XML

```
<resources>

    <string
name="app_name">Pengendali
Bluetooth V3</string>
    <string
name="title_activity_main">Pengend
ali Bluetooth V3</string>
    <string name="LampuJauh">Lampu
Jauh Aktif</string>
    <string
name="LampuDekat">Lampu Dekat
Aktif</string>
    <string name="Kiri">Kiri
Aktif</string>
    <string name="Kanan">Kanan
Aktif</string>
    <string name="Maju">Maju
Aktif</string>
    <string name="Mundur">Mundur
Aktif</string>
    <string
name="Berhenti">Berhenti
Aktif</string>

</resources>
```

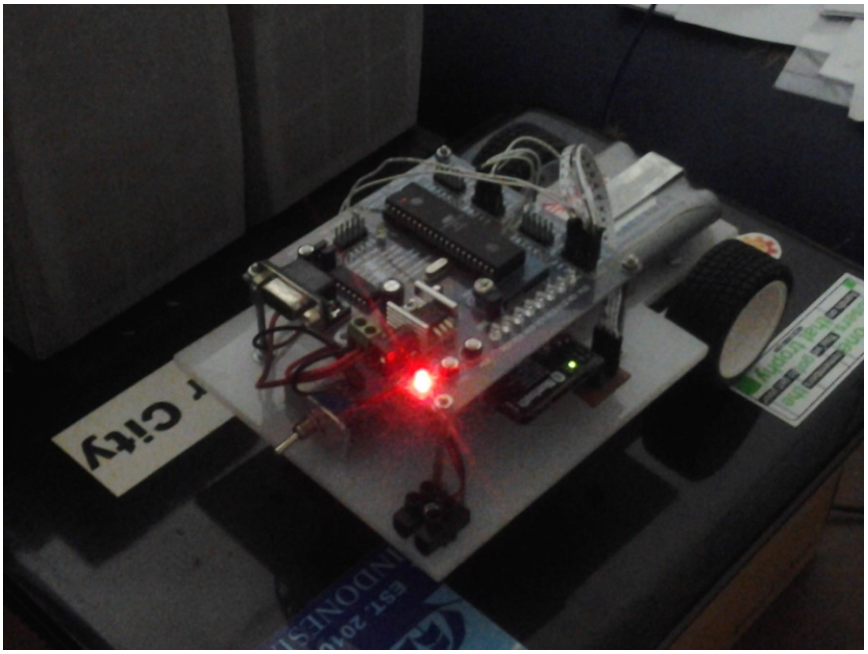
B.style_main.XML

```
<resources>

    <style name="AppTheme"
parent="android:Theme.Holo" />

</resources>
```

AndroidManifest.XML pada eclipse

```
<?xml version="1.0" encoding="utf-
8"?>
<manifest
xmlns:android="http://schemas.andr
oid.com/apk/res/android"

package="com.example.bluetooth1"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk

android:targetSdkVersion="15" />
      <uses-permission
android:name="android.permission.B
LUETOOTH_ADMIN" />
      <uses-permission
android:name="android.permission.B
LUETOOTH" />

    <application

android:icon="@drawable/ic_launche
r"

android:label="@string/app_name"

android:theme="@style/AppTheme" >
        <activity

android:name=".MainActivity"

android:label="@string/title_activ
ity_main">
            <intent-filter>
                <action

android:name="android.intent.actio
n.MAIN" />
                <category

android:name="android.intent.categ
ory.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

            </manifest>
```

LAMPIRAN C
FOTO SISTEM PENGENDALIAN ROBOT BERODA




PengendaliBluetoothV3
Lampu Jauh
Lampu Dekat
Kiri
Kanan
Maju
Mundur
Berhenti
12:54
SAMSUNG
DT-Smart AVR System
Depok Instruments
ISP PORT
RESET
SERIAL PORT
9-12VDC
POWER