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[\[KEMBALI KE MENU
SEBELUMNYA\]](http://muhammaddimas211006.blogspot.com)[</div>](#)

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[DAFTAR ISI](#)

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[1. Prosedur</div>](#)

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[2. Hardware dan Diagram Blok</div>](#)

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[3. Rangkaian Simulasi dan Prinsip Kerja</div>](#)

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[4. Flowchart dan Listing Program</div>](#)

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[5. Kondisi</div>](#)

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[6. Video Demo</div>](#)

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[7. Soal Analisa</div>](#)

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[8. Download File
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<p><p data-darkreader-inline-bgcolor="" data-darkreader-inline-border-bottom="" data-darkreader-inline-border-left="" data-darkreader-inline-border-right="" data-darkreader-inline-border-top="" data-darkreader-inline-color="" style="--darkreader-inline-bgcolor: #191b1c; --darkreader-inline-border-bottom: initial; --darkreader-inline-border-left: initial; --darkreader-inline-border-right: initial; --darkreader-inline-border-top: initial; --darkreader-inline-color: #c6c0b8; background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-family: "Times New Roman"; margin: 0px; padding: 0px; text-align: justify;">
</p></div></div><div><div>3. Rangkaian Simulasi dan Prinsip Kerja</div></div>

[Kembali]</div><div>
</div><div><div class="separator" style="clear: both; text-align: center;"><div style="text-align: justify;"><div>Gambar rangkaian</div><div>
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<div style="text-align: justify;"><div style="text-align: left;">
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</div></div></div></div></div></div>
</div></div><div>
</div><div>Prinsip Kerja :</div><div>
</div><div><div style="text-align: justify;">Pada percobaan ini kita menggunakan 2 buah arduino. Arduino pertama berperan sebagai master, sedangkan arduino kedua berperan sebagai slave. Inputan berupa keypad terhubung dengan arduino master. Output berupa LCD terhubung dengan arduino slave. Arduino yang berfungsi sebagai Master dalam rangkaian percobaan ini menjalani beberapa tahap. Pertama, secara berkala, Arduino Master memeriksa status pin digital yang terhubung ke tombol pada keypad untuk menentukan apakah pengguna telah menekannya. Selanjutnya, Arduino Master mengubah pola penekanan tombol menjadi kode atau perintah yang dapat dipahami oleh Arduino Slave. Kemudian, Arduino Master mengirimkan kode yang dihasilkan ke Arduino Slave melalui pin digital yang telah ditentukan untuk komunikasi antara Master dan Slave. Proses ini memungkinkan Arduino Slave untuk merespons sesuai dengan instruksi yang diterima dari Master.</div><div style="text-align: justify;">
</div><div style="text-align: justify;">Arduino Slave dalam rangkaian percobaan ini juga melibatkan beberapa langkah. Pertama, secara terus menerus, Arduino Slave menerima instruksi dari Arduino Master melalui pin komunikasi yang telah ditentukan untuk menerima kode atau perintah yang dikirimkan oleh Master. Selanjutnya, setelah menerima kode dari Master, Arduino Slave mengubahnya menjadi instruksi yang dapat dimengerti. Kode yang diterima mewakili tombol yang ditekan pada keypad atau perintah lain yang dikirim oleh Master. Setelah itu, Arduino Slave bertanggung jawab untuk mengontrol layar LCD sesuai dengan instruksi yang diterima. Ini termasuk mengirimkan perintah yang sesuai ke layar LCD, seperti instruksi untuk menampilkan karakter tertentu, memperbarui teks yang ditampilkan, atau melakukan tindakan lain yang diperlukan. Misalnya, pada percobaan ini ketika kita

menekan tombol 2 di keypad, maka LCD akan menampilkan "Tombol:

2".</div></div><div style="text-align: justify;">
</div><div>
</div></div>

4. Flowchart dan Listing Program

[Kembali]</div><p style="text-align: left;"><b style="font-family: times, "times new roman", serif;">Flowchart :</p><div><p

style="font-family: "Times New Roman";"></p><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: center;"></div>

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<div class="separator" style="clear: both; font-family: "Times New Roman"; text-align: center;">
</div>Listing Program :</div><div>
</div><div>MASTER</div><div>
</div><div><div style="background-color: white; outline: 0px; transition: all 0.3s ease 0s;"><div style="outline: 0px; transition: all 0.3s ease 0s;">// MASTER</div><div style="outline: 0px; transition: all 0.3s ease 0s;">#include <Keypad.h></div><div style="outline: 0px; transition: all 0.3s ease 0s;">const byte ROWS = 4;</div><div style="outline: 0px; transition: all 0.3s ease 0s;">const byte COLS = 3;</div><div style="outline: 0px; transition: all 0.3s ease 0s;">// Array to represent keys on keypad</div><div style="outline: 0px; transition: all 0.3s ease 0s;">char hexaKeys[ROWS][COLS] =

{</div><div style="outline: 0px; transition: all 0.3s ease 0s;"> {'1', '2', '3'},</div><div style="outline: 0px; transition: all 0.3s ease 0s;"> {'4', '5', '6'},</div><div style="outline: 0px; transition: all 0.3s ease 0s;"> {'7', '8', '9'},</div><div style="outline: 0px; transition: all 0.3s ease 0s;"> {'*', '0', '#'}</div><div style="outline: 0px; transition: all 0.3s ease

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0s;"><span style="color: black; font-family: times; font-size: small;"></span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">byte rowPins[ROWS] = {7, 6, 5, 4};</span></div><div style="outline: 0px; transition:
all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size: small;">byte colPins[COLS] =
{8, 9, 10};</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color:
black; font-family: times; font-size: small;">// Create keypad object</span></div><div style="outline:
0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size:
small;">Keypad customKeypad = Keypad(makeKeymap(hexaKeys), rowPins, colPins, ROWS,
COLS);</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black;
font-family: times; font-size: small;">void setup()&nbsp;</span></div><div style="outline: 0px;
transition: all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size:
small;">{&nbsp;</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;">Serial.begin(9600);</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">}</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;">void loop()</span></div><div style="outline:
0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size:
small;">{</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color:
black; font-family: times; font-size: small;">&nbsp;</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color:
black; font-family: times; font-size: small;">&nbsp;</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;">Serial.write(customKey);</span></div><div style="outline: 0px; transition: all 0.3s
ease 0s;"><span style="color: black; font-family: times; font-size: small;">&nbsp;</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">&nbsp;</span></div><div style="outline: 0px; transition: all 0.3s ease
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/></div></div><div style="background-color: white; outline: 0px; transition: all 0.3s ease 0s;"><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">SLAVE</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;"><br /></span></div><div style="outline: 0px;
transition: all 0.3s ease 0s;"><div style="outline: 0px; transition: all 0.3s ease 0s;"><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">//SLAVE</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">#include &lt;LiquidCrystal.h&gt;</span></div><div style="outline: 0px; transition:
all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size: small;">LiquidCrystal lcd(A0,
A1, A2, A3, A4, A5);</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;">char message;</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">void setup()&nbsp;</span></div><div style="outline: 0px; transition: all 0.3s ease
0s;"><span style="color: black; font-family: times; font-size: small;">{&nbsp;</span></div><div

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style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">&nbsp;Serial.begin(9600);</span></div><div style="outline: 0px; transition: all 0.3s
ease 0s;"><span style="color: black; font-family: times; font-size: small;">&nbsp;lcd.begin(16,
2);</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black;
font-family: times; font-size: small;">></span></div><div style="outline: 0px; transition: all 0.3s ease
0s;"><span style="color: black; font-family: times; font-size: small;">void loop()</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;"></span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;">&nbsp;lcd.setCursor(0, 0);</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">&nbsp;lcd.print("Tombol :");</span></div><div style="outline: 0px; transition: all
0.3s ease 0s;"><span style="color: black; font-family: times; font-size: small;">&nbsp;if
(Serial.available())</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
style="color: black; font-family: times; font-size: small;"><{</span></div><div style="outline: 0px;
transition: all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size:
small;">&nbsp;message = Serial.read();</span></div><div style="outline: 0px; transition: all 0.3s
ease 0s;"><span style="color: black; font-family: times; font-size: small;">&nbsp;if
(message)</span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color:
black; font-family: times; font-size: small;">&nbsp;</span></div><div style="outline: 0px; transition:
all 0.3s ease 0s;"><span style="color: black; font-family: times; font-size:
small;">&nbsp;lcd.print(message);</span></div><div style="outline: 0px; transition: all 0.3s ease
0s;"><span style="color: black; font-family: times; font-size: small;">&nbsp;</span></div><div
style="outline: 0px; transition: all 0.3s ease 0s;"><span style="color: black; font-family: times;
font-size: small;">></span></div><div style="outline: 0px; transition: all 0.3s ease 0s;"><span
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times new roman, serif;"></span></p><div style="text-align: left;"><b style="font-family: times,
&quot;times new roman&quot;;, serif;">5. Kondisi </b><span style="font-family: times, &quot;times
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left;">Modul 3 Percobaan 4 : Komunikasi UART&nbsp;</div><div style="text-align: left;"><br
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serif;"><span style="font-family: &quot;times&quot;; , &quot;times new roman&quot;; , serif;
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href="#home">[Kembali]</a></span></span></div><div style="text-align: center;"><div
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&quot;times&quot;; , &quot;times new roman&quot;; , serif;"><br /></span></div><div
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width="320" youtube-src-id="VjE7sQTnrMs"></iframe></div><br /><div class="separator"
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/></div></div></div><div><span style="font-family: &quot;times&quot;; , &quot;times new

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roman" , serif;">7. Soal Analisa

[Kembali]</div><div>
</div><div><div class="separator" style="clear: both; text-align: justify;"><div class="separator" style="clear: both;">1. Jelaskan perbedaan antara percobaan 3 dengan percobaan 4!</div><div class="separator" style="clear: both;">2. Bagaimana proses pengiriman data pada percobaan 4?</div><div>
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8. Download File

[Kembali]

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</div><div>HTML Download</div><div>File Rangkaian Download
Video Percobaan Download</div><div><div><div>Listing Program Download</div><div><span style="font-family:

"times" , "times new roman" , serif;">Datasheet
Arduino Do
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"times" , "times new roman" , serif;">Datasheet
Keypad
Download</div><span style="background-color: white;
text-align: justify;">Download Data Sheet LCD <a
href="https://drive.google.com/file/d/1Yi1rn59Qx4lTejXeSQUG3Q6rkewEzvni/view?usp=sharing"
style="background-color: white; text-align:
justify;">Download</div></div></div></div></div><div>Datasheet Jumper D
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