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LAMPIRAN A

Program Arduino

a.) Konfigurasi GRBL

Grbl 1.1f ['\$' for help]

[HLP:\$\$ \$# \$G \$I \$N \$x=val \$Nx=line \$J=line \$SLP \$C \$X

\$H ~ ! ? ctrl-x]

ok

\$0=10

\$1=25

\$2=0

\$3=0

\$4=0

\$5=0

\$6=0

\$10=1

\$11=0.010

\$12=0.002

\$13=0

\$20=0

\$21=0

\$22=0

\$23=0

\$24=25.000

\$25=500.000

\$26=250

\$27=1.000

\$30=1000

\$31=0

\$32=0

\$100=79.000

\$101=79.000

\$102=400.000

\$110=500.000

\$111=500.000

\$112=500.000

\$120=10.000
\$121=10.000
\$122=10.000
\$130=300.000
\$131=180.000
\$132=30.000
ok

b.) Program Bluetooth HC-05

```
#include <SoftwareSerial.h>
SoftwareSerial BTSerial(10,11);
void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
  Serial.println(" AT KOMEN :");
  BTSerial.begin(9600);
}
void loop() {
  // put your main code here, to run repeatedly:
  if (BTSerial.available())
    Serial.write (BTSerial.read());
  if (Serial.available())
    BTSerial.write(Serial.read());
}
```

c.) Program G-code huruf LOVE

(Header)
(Generated by gcodetools from Inkscape.)
(Using default header. To add your own header create file "header"
in the output dir.)
M3
(Header end.)
G21 (All units in mm)

(Start cutting path id: path1400)
(Change tool to Cylindrical cutter)

G00 Z5.000000

G00 X67.183294 Y30.462520

G01 Z-1.000000 F100.0(Penetrate)

G02 X57.994053 Y33.526818 Z-1.000000 I1.890438 J20.979591
F400.000000

G02 X52.717548 Y39.408830 Z-1.000000 I7.372865 J11.921558

G03 X52.154919 Y40.305866 Z-1.000000 I-4.173376 J-1.992619

G03 X52.014251 Y40.287630 Z-1.000000 I-0.064794 J-0.051854

G03 X51.901118 Y39.971217 Z-1.000000 I2.087080 J-0.924663

G03 X50.825514 Y35.987600 Z-1.000000 I331.635544 J-91.680906

G02 X49.643104 Y32.078641 Z-1.000000 I-54.836929 J14.454159

G02 X49.333860 Y31.629180 Z-1.000000 I-0.957576 J0.327728

G01 X48.894388 Y31.262590 Z-1.000000

G01 X30.453835 Y31.262590 Z-1.000000

G01 X12.013281 Y31.262590 Z-1.000000

G01 X11.586637 Y31.693710 Z-1.000000

G02 X11.262309 Y32.166287 Z-1.000000 I1.145903 J1.134009

G02 X11.165160 Y32.630570 Z-1.000000 I1.006932 J0.453002

G02 X11.231827 Y33.127898 Z-1.000000 I2.041671 J-0.020552

G02 X18.021572 Y58.778670 Z-1.000000 I5529.304069 J-
1449.879786

G02 X24.989840 Y84.350961 Z-1.000000 I2587.523689 J-
691.346335

G02 X25.241328 Y84.766250 Z-1.000000 I0.865859 J-0.240549

G02 X25.674838 Y84.948135 Z-1.000000 I0.461704 J-0.492875

G02 X34.521621 Y85.154020 Z-1.000000 I9.989688 J-239.078768

G02 X43.394413 Y85.049322 Z-1.000000 I1.277704 J-267.739922

G02 X43.973497 Y84.885720 Z-1.000000 I-0.034912 J-1.230239

G02 X44.415504 Y84.503416 Z-1.000000 I-0.768500 J-1.335183

G02 X44.623569 Y84.059890 Z-1.000000 I-0.850682 J-0.669634

G02 X44.613643 Y83.547966 Z-1.000000 I-1.099140 J-0.234746

G02 X39.580282 Y64.241450 Z-1.000000 I-1653.923605

J420.881553

G03 X34.484435 Y44.954386 Z-1.000000 I3752.237524 J-1001.697696
G03 X34.512233 Y44.858160 Z-1.000000 I0.094719 J-0.024766
G03 X34.609823 Y44.836944 Z-1.000000 I0.066548 J0.071050
G03 X42.669018 Y47.602430 Z-1.000000 I-226.023889
J671.805848
G01 X50.740589 Y50.426510 Z-1.000000
G01 X50.781939 Y50.987040 Z-1.000000
G02 X51.826646 Y57.353697 Z-1.000000 I36.196490 J-2.670455
G02 X54.256126 Y64.500620 Z-1.000000 I48.118475 J-12.370697
G02 X63.912686 Y78.198953 Z-1.000000 I36.912510 J-15.768424
G02 X76.555249 Y85.126700 Z-1.000000 I20.166179 J-21.801915
G02 X83.486399 Y86.106062 Z-1.000000 I7.676892 J-29.314681
G02 X89.774078 Y85.452110 Z-1.000000 I0.608203 J-24.706837
G02 X96.427397 Y82.399664 Z-1.000000 I-4.270284 J-18.085035
G02 X100.675290 Y77.530630 Z-1.000000 I-8.511594 J-11.713287
G02 X101.704615 Y75.262426 Z-1.000000 I-16.558567 J-8.882041
G02 X102.404450 Y72.932330 Z-1.000000 I-16.778884 J-6.309613
G03 X102.581442 Y72.578251 Z-1.000000 I0.812517 J0.184874
G03 X102.784390 Y72.484260 Z-1.000000 I0.202948 J0.172109
G03 X102.923936 Y72.619991 Z-1.000000 I0.000000 J0.139599
G03 X102.948130 Y78.390530 Z-1.000000 I-122.618847 J3.399429
G02 X103.211693 Y84.355089 Z-1.000000 I47.041500 J0.909427
G02 X103.662760 Y85.003380 Z-1.000000 I0.818541 J-0.088457
G02 X104.064169 Y85.102111 Z-1.000000 I0.419949 J-0.842009
G02 X113.280780 Y85.192920 Z-1.000000 I9.216611 J-467.674135
G02 X123.220713 Y84.721080 Z-1.000000 I-0.000000 J-104.934841
G02 X123.861020 Y84.186110 Z-1.000000 I-0.069871 J-0.734307
G02 X123.939834 Y83.643603 Z-1.000000 I-2.046705 J-0.574318
G02 X123.877520 Y83.074810 Z-1.000000 I-2.311335 J-0.034592
G03 X123.762804 Y82.157653 Z-1.000000 I4.148405 J-0.984628
G03 X123.620955 Y69.905615 Z-1.000000 I1441.911682 J-22.820648
G03 X123.585441 Y57.623041 Z-1.000000 I1383.977006 J-10.142975

G03 X123.690640 Y57.576030 Z-1.000000 I0.063147 J0.000098
G03 X123.841513 Y57.764146 Z-1.000000 I-0.485418 J0.543874
G03 X129.384210 Y67.759250 Z-1.000000 I-1429.458252
J799.227920
G02 X134.897033 Y77.778555 Z-1.000000 I28295.636254 J-
15562.283146
G02 X136.805780 Y81.241950 Z-1.000000 I3372.992823 J-
1856.667426
G02 X138.787345 Y84.638557 Z-1.000000 I72.022567 J-39.741323
G02 X139.088710 Y84.948640 Z-1.000000 I0.846903 J-0.521604
G02 X139.497030 Y85.072696 Z-1.000000 I0.415416 J-0.633306
G02 X165.160210 Y85.192920 Z-1.000000 I25.663180 J-
2738.983752
G02 X190.844966 Y85.109875 Z-1.000000 I0.000000 J-
3972.027640
G02 X191.334900 Y85.023590 Z-1.000000 I-0.009627 J-1.488749
G02 X192.014358 Y84.520488 Z-1.000000 I-0.487241 J-1.368405
G02 X192.268280 Y83.765100 Z-1.000000 I-1.036622 J-0.768830
G02 X192.209866 Y83.241458 Z-1.000000 I-2.176135 J-0.022325
G02 X191.116840 Y78.901350 Z-1.000000 I-152.642050
J36.134153
G02 X189.845375 Y74.631299 Z-1.000000 I-75.742350 J20.228984
G02 X189.536780 Y74.098410 Z-1.000000 I-1.422493 J0.467964
G01 X189.113690 Y73.627530 Z-1.000000
G01 X179.526330 Y73.585430 Z-1.000000
G01 X169.938970 Y73.543330 Z-1.000000
G01 X168.871620 Y69.551510 Z-1.000000
G02 X167.803693 Y65.559841 Z-1.000000 I-13631.384582
J3644.776600
G02 X167.684500 Y65.116870 Z-1.000000 I-172.055325
J46.058516
G01 X167.564750 Y64.674060 Z-1.000000
G01 X174.715060 Y64.628060 Z-1.000000
G01 X181.865360 Y64.582060 Z-1.000000
G01 X182.285130 Y64.124910 Z-1.000000
G02 X182.604406 Y63.629140 Z-1.000000 I-1.279043 J-1.174397

G02 X182.700210 Y63.147320 Z-1.000000 I-1.109340 J-0.471013
G02 X182.636513 Y62.634889 Z-1.000000 I-2.285791 J0.023957
G02 X181.492230 Y58.146260 Z-1.000000 I-176.513115
J42.608200
G02 X180.153013 Y53.754150 Z-1.000000 I-66.020735 J17.730433
G02 X179.834380 Y53.299050 Z-1.000000 I-0.946884 J0.323856
G01 X179.379840 Y52.932450 Z-1.000000
G01 X171.915080 Y52.932450 Z-1.000000
G01 X164.450320 Y52.932450 Z-1.000000
G01 X164.278240 Y52.321460 Z-1.000000
G03 X161.902084 Y43.460955 Z-1.000000 I352.853502 J-
99.374954
G03 X161.965370 Y43.244410 Z-1.000000 I0.214822 J-0.054738
G03 X162.076328 Y43.199983 Z-1.000000 I0.112492 J0.120178
G03 X171.401660 Y43.156510 Z-1.000000 I9.325332
J1000.168678
G02 X180.693727 Y43.002981 Z-1.000000 I0.000000 J-281.269423
G02 X181.183030 Y42.833220 Z-1.000000 I-0.028864 J-0.873238
G02 X181.555233 Y42.464454 Z-1.000000 I-1.069105 J-1.451290
G02 X181.730670 Y42.104060 Z-1.000000 I-0.843420 J-0.633468
G02 X181.752235 Y38.500170 Z-1.000000 I-6.877659 J-1.843165
G02 X179.203690 Y32.202360 Z-1.000000 I-24.517827 J6.257103
G02 X178.541702 Y31.801118 Z-1.000000 I-0.692433 J0.395699
G02 X158.867210 Y31.425440 Z-1.000000 I-19.674492
J514.994913
G01 X139.889820 Y31.425440 Z-1.000000
G01 X139.462780 Y31.825360 Z-1.000000
G02 X139.128129 Y32.265348 Z-1.000000 I1.130262 J1.206928
G02 X139.035730 Y32.641050 Z-1.000000 I0.717619 J0.375702
G02 X139.088309 Y33.049916 Z-1.000000 I1.616012 J0.000000
G02 X144.348160 Y52.954950 Z-1.000000 I3900.747581 J-
1020.114493
G03 X149.595662 Y72.834507 Z-1.000000 I-3524.171294
J940.889335
G03 X149.564190 Y72.943370 Z-1.000000 I-0.107228 J0.027981
G03 X149.455900 Y72.979316 Z-1.000000 I-0.093152 J-0.099537

G03 X149.007180 Y72.881070 Z-1.000000 I0.245033 J-2.192983
G03 X148.644460 Y72.591426 Z-1.000000 I0.210442 J-0.635473
G03 X130.531570 Y42.260350 Z-1.000000 I3320.101439 J-
2003.247729
G02 X124.514329 Y32.195617 Z-1.000000 I-997.745325
J589.674981
G02 X124.225550 Y31.832730 Z-1.000000 I-1.551225 J0.938091
G02 X123.826443 Y31.663003 Z-1.000000 I-0.419466 J0.432252
G02 X114.590570 Y31.506870 Z-1.000000 I-9.235873 J273.090621
G01 X105.291400 Y31.506870 Z-1.000000
G01 X104.828440 Y31.940420 Z-1.000000
G02 X104.483982 Y32.431019 Z-1.000000 I1.001468 J1.069374
G02 X104.302960 Y33.162410 Z-1.000000 I2.126365 J0.914379
G02 X104.259610 Y33.951854 Z-1.000000 I16.213547 J1.286226
G02 X103.890500 Y46.659500 Z-1.000000 I4206.135264
J128.531913
G03 X103.515761 Y59.367063 Z-1.000000 I-3255.456646 J-
89.642240
G03 X103.438390 Y61.038200 Z-1.000000 I-56.366971 J-1.772351
G03 X103.167920 Y62.529349 Z-1.000000 I-6.408318 J-0.392260
G03 X102.925890 Y62.708250 Z-1.000000 I-0.242030 J-0.074267
G03 X102.630488 Y62.571367 Z-1.000000 I0.000000 J-0.387189
G03 X102.408170 Y62.097260 Z-1.000000 I0.764170 J-0.647513
G02 X97.704629 Y48.363779 Z-1.000000 I-46.021601 J8.089615
G02 X89.777474 Y38.183340 Z-1.000000 I-32.641834 J17.240545
G02 X84.438474 Y34.291927 Z-1.000000 I-21.365431 J23.705022
G02 X78.744370 Y31.775950 Z-1.000000 I-14.228991 J24.501363
G02 X75.473616 Y30.934880 Z-1.000000 I-9.374149 J29.674016
G02 X72.140175 Y30.455030 Z-1.000000 I-6.069577 J30.346008
G02 X69.684368 Y30.348002 Z-1.000000 I-2.416899 J27.228637
G02 X67.183261 Y30.462030 Z-1.000000 I0.040385 J28.372746
G01 X67.183294 Y30.462520 Z-1.000000
G00 Z5.000000

(End cutting path id: path1400)

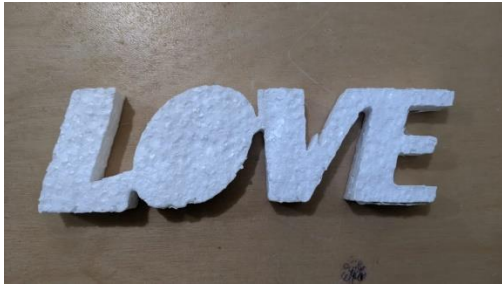
(Start cutting path id: path1400)
(Change tool to Cylindrical cutter)

G00 X0.0000 Y0.0000

LAMPIRAN B

Dokumentasi Alat





BIODATA PENULIS



Nama : Ilham Khoeron
Tempat/Tanggal Lahir : Cilacap, 29 Juni 2001
Email : Jln.M.Baeturrohman RT 06/08 Desa
Mernek, Kec. Maos, Kab. Cilacap
Telepon/HP : 08122591887
Hobi : Menulis
Moto : Jika kau menungguku menyerah,
Maka kau akan menungguku
selamanya
Riwayat Pendidikan :

- RA Masyitoh Tahun 2007-2005
- MI Darwata Menek Tahun 2007-2013
- SMP Negeri 2 Sampang Tahun 2013-2016
- SMA Negeri 1 Sampang Tahun 2016-2019

Penulis telah mengikuti seminar Tugas Akhir pada tanggal sebagai salah satu persyaratan untuk memperoleh gelar AhliMadya (A.Md).