LAMPIRAN

Program Utama Pada Arduino Nano

```
#include <AD9850.h>
#include <LiquidCrystal_I2C.h>

const int W_CLK_PIN =11;
const int FQ_UD_PIN = 10;
const int DATA_PIN = 9;
const int RESET_PIN = 8;

int Encoder_OuputA  = 3;
int Encoder_OuputB  = 2;
int Encoder_Switch = 4;
int Previous_Output;
int multiplier = 1;

double angle = 0;
double increment = 0.2;

uint32_t freq = 0;
uint32_t freq1 = 0;
uint32_t freq2 = 0;
double trimFreq = 124999500;
int phase = 0;
uint32_t lower_level_freq = 1; //Lowest possible freq value is 1Hz
uint32_t upper_level_freq = 100000; //Maximum possible freq is
100KHz
LiquidCrystal_I2C lcd(0x27,16,2);

void setup()
{
```

```
  DDS.begin(W_CLK_PIN, FQ_UD_PIN, DATA_PIN, RESET_PIN);
  DDS.calibrate(trimFreq);
  lcd.init();
  lcd.print("  Fish Caller  "); //Intro Message line 1
  lcd.setCursor(0, 1);
  lcd.print("      PNC      "); //Intro Message line 2
  delay(2000);
  lcd.clear();
  lcd.print("Freq :00000 Hz");
  lcd.setCursor(0, 1);
  lcd.print("Gain : 1  ");
  Serial.begin(9600); //Serial for debugging
// InitTimersSafe(); //Initialize timers without disturbing timer 0
//pin Mode declaration
  pinMode (Encoder_OuputA, INPUT);
  pinMode (Encoder_OuputB, INPUT);
  pinMode (Encoder_Switch, INPUT);
  digitalWrite(4,HIGH);
  Previous_Output = digitalRead(Encoder_OuputA); //Read the inital
value of Output A
}
void loop()
{
  if (digitalRead(Encoder_OuputA) != Previous_Output)
   {
    if (digitalRead(Encoder_OuputB) != Previous_Output)
    {
     freq1 = freq1 + multiplier;
     if(freq1<2000 && freq1>=0){
      freq=freq1;
      }else{
```

```
    freq1=2000;
    freq=2000;
    }
 // Serial.println(freq);
   DDS.setfreq(freq, phase);
  lcd.setCursor(0, 0);
  lcd.print("Freq :    Hz");
  lcd.setCursor(6, 0);
  lcd.print(freq);
 }
 else
 {
  freq1 = freq1 -  multiplier;
  if(freq1>=0 && freq1<2000){
   freq=freq1;
   }else{
   freq1=0;
   freq=0;
   }
 // Serial.println(freq);
  DDS.setfreq(freq, phase);
   lcd.setCursor(0, 0);
   lcd.print("Freq :    Hz");
   lcd.setCursor(6, 0);
   lcd.print(freq);
 }
}
  if (digitalRead(Encoder_Switch) == 0)
{
multiplier = multiplier * 10;
if (multiplier>1000)
```

```
  multiplier=1;
 // Serial.println(multiplier);
  lcd.setCursor(0, 1);
  lcd.print("Gain :   ");
  lcd.setCursor(6, 1);
  lcd.print(multiplier);
  delay(500);
  while(digitalRead(Encoder_Switch) == 0);
  }
  Previous_Output = digitalRead(Encoder_OuputA);
}
```

BIODATA PENULIS

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Riwayat Pendidikan :

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Penulis telah mengikuti seminar Tugas Akhir pada tanggal 16 Agustus 2023 sebagai salah satu persyaratan untuk memperoleh gelar Ahli Madya (A.Md).