

AI6CT ARDUINO KEYER PROJECT

TEXT FILE

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// Simple Iambic Keyer v1.00
// by Ernest PA3HCM
// Reinier AI6CT added rotary encoder and OLED WPM indication

#include <Encoder.h>
#include "SSD1306Ascii.h"
#include "SSD1306AsciiAvr12c.h"

#define I2C_ADDRESS 0x3C\
// #define RST_PIN -1
SSD1306AsciiAvr12c oled;

Encoder myEnc(2, 3);

#define P_DOT 5 // Connects to the dot lever of the paddle
#define P_DASH 6 // Connects to the dash lever of the paddle
#define P_AUDIO 12 // Audio output
#define P_CW 13 // Output of the keyer, connect to your radio
#define P_SPEED A0 // Attached to center pin of potmeter, allows you
// to set the keying speed.

int oldPosition = -999;
float speed;

// Initializing the Arduino
void setup()
{
  Serial.begin(9600);

  pinMode(P_DOT, INPUT_PULLUP);
  pinMode(P_DASH, INPUT_PULLUP);
  pinMode(P_AUDIO, OUTPUT);
  pinMode(P_CW, OUTPUT);
  digitalWrite(P_CW, LOW); // Start with key up

  oled.begin(&Adafruit128x32, I2C_ADDRESS);

  oled.setFont(Adafruit5x7);
}

// Main routine
void loop()
{
  uint32_t m = micros();

  speed = myEnc.read()+60;
  if (speed != oldPosition) {
    oldPosition = speed;
    // Serial.print("WPM: ");
    // Serial.println(1200/speed,1);

    oled.clear();

    // first row
    oled.setCursor(0,0);
```

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oled.set1X();
oled.println("AI6CT morse keyer");

// second row
oled.setCursor(0,1);
oled.set1X();
oled.println(" ");

// third row
oled.setCursor(0,2);
oled.set2X();
oled.print(1200/speed,1);
oled.print(" WPM ");
oled.print(micros() - m);

}

// speed = analogRead(P_SPEED)/2; // Read the keying speed from potmeter
if(!digitalRead(P_DOT)) // If the dot lever is pressed..
{
tone(P_AUDIO,800);
keyAndBeep(speed); // ... send a dot at the given speed
noTone(P_AUDIO);
delay(speed); // and wait before sending next
}
if(!digitalRead(P_DASH)) // If the dash lever is pressed...
{
tone(P_AUDIO,800);
keyAndBeep(speed*3); // ... send a dash at the given speed
noTone(P_AUDIO);
delay(speed); // and wait before sending next
}
}

// Key the transmitter and sound a beep
void keyAndBeep(int speed)
{
digitalWrite(P_CW, HIGH); // Key down
//tone (P_AUDIO,800);
delay (speed);
// noTone(P_AUDIO);
digitalWrite(P_CW, LOW); // Key up
}

speed = myEnc.read()+60;
if (speed != oldPosition) {
oldPosition = speed;
Serial.print("WPM: ");
Serial.println(1200/speed,1);

// third row
oled.set2X();
oled.print(1200/speed,1);
oled.print(" WPM ");
oled.print(micros() - m);
}

// speed = analogRead(P_SPEED)/2; // Read the keying speed from potmeter
if(!digitalRead(P_DOT)) // If the dot lever is pressed..
{
tone(P_AUDIO,800);

```

```

keyAndBeep(speed);    // ... send a dot at the given speed
noTone(P_AUDIO);
delay(speed);        // and wait before sending next
}
if(!digitalRead(P_DASH)) // If the dash lever is pressed...
{
tone(P_AUDIO,800);
keyAndBeep(speed*3); // ... send a dash at the given speed
noTone(P_AUDIO);
delay(speed);        // and wait before sending next
}
}

// Key the transmitter and sound a beep
void keyAndBeep(int speed)
{
digitalWrite(P_CW, HIGH);    // Key down
//tone (P_AUDIO,800);
delay (speed);
// noTone(P_AUDIO);
digitalWrite(P_CW, LOW);    // Key up
}

```