#include <Arduino.h>

#include <driver/i2s.h>

#include <Adafruit\_MAX98357.h>

#define I2S\_WS 25

#define I2S\_SD 32

#define I2S\_BCK 33

#define SAMPLE\_RATE 16000

#define BUFFER\_SIZE 512

#define SPEAKER\_PIN 26

// #define AMP\_SCK //

// #define AMP\_SD / pas de fil //

#define AMP\_LRC 25

// #define AMP\_GAIN //

#define AMP\_DIN 22

#define AMP\_BCLK 26

Adafruit\_MAX98357 amp = Adafruit\_MAX98357(AMP\_LRC, AMP\_DIN, AMP\_BCKL);

void setup() {

  Serial.begin(9600);

  i2s\_config\_t i2s\_config = {

    .mode = (i2s\_mode\_t)(I2S\_MODE\_MASTER | I2S\_MODE\_RX),

    .sample\_rate = SAMPLE\_RATE,

    .bits\_per\_sample = I2S\_BITS\_PER\_SAMPLE\_16BIT,

    .channel\_format = I2S\_CHANNEL\_FMT\_ONLY\_LEFT,

    .communication\_format = (i2s\_comm\_format\_t)(I2S\_COMM\_FORMAT\_I2S | I2S\_COMM\_FORMAT\_I2S\_MSB),

    .dma\_buf\_count = 2,

    .dma\_buf\_len = BUFFER\_SIZE,

    .intr\_alloc\_flags = ESP\_INTR\_FLAG\_LEVEL1,

  };

  i2s\_pin\_config\_t pin\_config = {

    .ws\_io\_num = I2S\_WS,

    .data\_out\_num = I2S\_PIN\_NO\_CHANGE,

    .data\_in\_num = I2S\_SD,

    .bck\_io\_num = I2S\_BCK,

  };

  i2s\_driver\_install((i2s\_port\_t)0, &i2s\_config, 0, NULL);

  i2s\_set\_pin((i2s\_port\_t)0, &pin\_config);

  pinMode(SPEAKER\_PIN, OUTPUT);

  amp.begin();

  delay(1000);

}

void loop() {

  size\_t bytes\_read;

  uint8\_t buffer[BUFFER\_SIZE];

  i2s\_read((i2s\_port\_t)0, buffer, BUFFER\_SIZE, &bytes\_read, portMAX\_DELAY);

  // Envoie les données audio à l'amplificateur

  for (int i = 0; i < bytes\_read; i++) {

    amp.digitalWrite(1);

    amp.transfer(buffer[i]);

    amp.digitalWrite(0);

  }

}