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/*
  Example for receiving

  https://github.com/sui77/rc-switch/

  If you want to visualize a telegram copy the raw data and
  paste it into http://test.sui.li/oszi/
*/

static const char* bin2tristate(const char* bin);
static char * dec2binWzerofill(unsigned long Dec, unsigned int bitLength);

void output(unsigned long decimal, unsigned int length, unsigned int delay, unsigned int* raw, unsigned
int protocol) {

  if (decimal == 0) {
    Serial.print("Unknown encoding.");
  } else {
    const char* b = dec2binWzerofill(decimal, length);
    Serial.print("Decimal: ");
    Serial.print(decimal);
    Serial.print(" (");
    Serial.print( length );
    Serial.print("Bit) Binary: ");
    Serial.print( b );
    Serial.print(" Tri-State: ");
    Serial.print( bin2tristate( b) );
    Serial.print(" PulseLength: ");
    Serial.print(delay);
    Serial.print(" microseconds");
    Serial.print(" Protocol: ");
    Serial.println(protocol);
  }

  Serial.print("Raw data: ");
  for (unsigned int i = 0; i <= length * 2; i++) {
    Serial.print(raw[i]);
    Serial.print(",");
  }
  Serial.println();
  Serial.println();
}

static const char* bin2tristate(const char* bin) {
  static char returnValue[50];
  int pos = 0;
  int pos2 = 0;
  while (bin[pos] != '\0' && bin[pos + 1] != '\0') {
    if (bin[pos] == '0' && bin[pos + 1] == '0') {
      returnValue[pos2] = '0';
    } else if (bin[pos] == '1' && bin[pos + 1] == '1') {
      returnValue[pos2] = '1';
    } else if (bin[pos] == '0' && bin[pos + 1] == '1') {
      returnValue[pos2] = 'F';
    } else {
      return "not applicable";
    }
    pos = pos + 2;
    pos2++;
  }
  returnValue[pos2] = '\0';
  return returnValue;
}

static char * dec2binWzerofill(unsigned long Dec, unsigned int bitLength) {
  static char bin[64];
  unsigned int i = 0;
```

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  while (Dec > 0) {
    bin[32 + i++] = ((Dec & 1) > 0) ? '1' : '0';
    Dec = Dec >> 1;
  }

  for (unsigned int j = 0; j < bitLength; j++) {
    if (j >= bitLength - i) {
      bin[j] = bin[ 31 + i - (j - (bitLength - i)) ];
    } else {
      bin[j] = '0';
    }
  }
  bin[bitLength] = '\0';

  return bin;
}

#include <RCSwitch.h>

RCSwitch mySwitch = RCSwitch();

void setup() {
  Serial.begin(9600);
  mySwitch.enableReceive(4);  // Receiver on interrupt 0 => that is pin #2.  For ESP interrupts are same
as gpio pin.
}

void loop() {
  if (mySwitch.available()) {
    output(mySwitch.getReceivedValue(), mySwitch.getReceivedBitlength(), mySwitch.getReceivedDelay(),
mySwitch.getReceivedRawdata(), mySwitch.getReceivedProtocol());
    mySwitch.resetAvailable();
  }
}
```