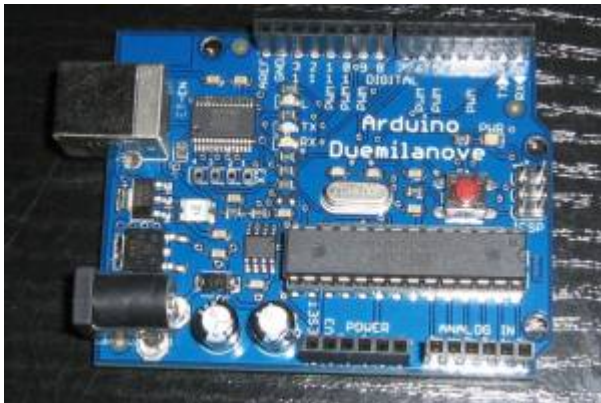


Arduino

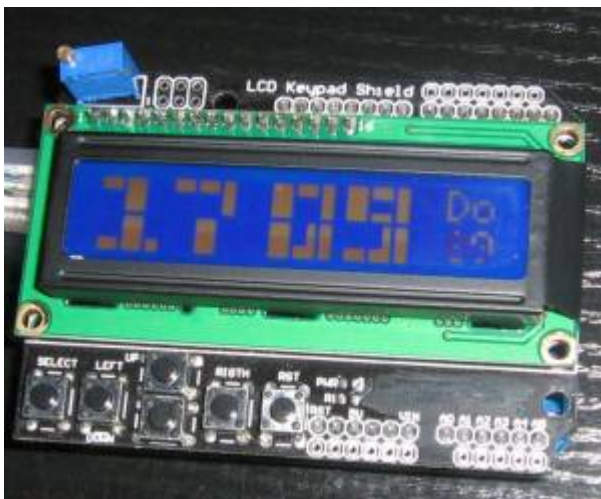
Arduino Duemilanove

Man kaufe bei ebay einen Arduino Duemilanove 2009 - Nachbau. (April 2011, EUR 15,99 aus Hongkong)



DFRobot LCD keypad Shield

Und ein DFRobot LCD keypad Shield (Mai 2011, US \$17,75 aus Hongkong)



Unterlagen, Schaltplan, Beispielcode:

[http://www.dfrobot.com/wiki/index.php?title=Arduino_LCD_KeyPad_Shield_\(SKU:_DFR0009\)](http://www.dfrobot.com/wiki/index.php?title=Arduino_LCD_KeyPad_Shield_(SKU:_DFR0009))

etwas in Deutsch:

<http://www.kriwanek.de/arduino/komponenten/156-lcd-shield.html>

Arduino Pin	LCD-Pin
Analog 0	Taste (Up, Down, Left, Right, Select)

Arduino Pin	LCD-Pin
Digital 4	DB 4
Digital 5	DB 5
Digital 6	DB 6
Digital 7	DB 7
Digital 8	RS (Command or Data)
Digital 9	Enable
Digital 10	Hintergrundbeleuchtung

Neben einer normalen 2×16-LCD-Anzeige mit Hintergrundbeleuchtung gibt es 5 Tasten, die interessanterweise nicht einzeln auf Digitalports gehen, sondern nur über einen einzigen Analogport abgefragt werden: Die Tasten liefern über einen Widerstands-Spannungsteilerkette unterschiedliche Spannungswerte.

Die LCD-Anzeige kann über die Standard-Arduino-Bibliothek **LiquidCrystal** angesteuert werden. Initilaisierung

```
LiquidCrystal lcd(8,9,4,5,6,7);
```

Die Tasten werden so abgefragt:

```
//Sample using LiquidCrystal library
#include <LiquidCrystal.h>

/*****

This program will test the LCD panel and the buttons
Mark Bramwell, July 2010

*****/

// select the pins used on the LCD panel
LiquidCrystal lcd(8, 9, 4, 5, 6, 7);

// define some values used by the panel and buttons
int lcd_key    = 0;
int adc_key_in = 0;
#define btnRIGHT 0
#define btnUP    1
#define btnDOWN  2
#define btnLEFT  3
#define btnSELECT 4
#define btnNONE  5

// read the buttons
int read_LCD_buttons()
{
  adc_key_in = analogRead(0);    // read the value from the sensor
  // my buttons when read are centered at these valies: 0, 144, 329, 504, 741
  // we add approx 50 to those values and check to see if we are close
  if (adc_key_in > 1000) return btnNONE; // We make this the 1st option for
```

```
speed reasons since it will be the most likely result
if (adc_key_in < 50)    return btnRIGHT;
if (adc_key_in < 195)   return btnUP;
if (adc_key_in < 380)   return btnDOWN;
if (adc_key_in < 555)   return btnLEFT;
if (adc_key_in < 790)   return btnSELECT;
return btnNONE; // when all others fail, return this...
}

void setup()
{
  lcd.begin(16, 2);           // start the library
  lcd.setCursor(0,0);
  lcd.print("Push the buttons"); // print a simple message
}

void loop()
{
  lcd.setCursor(9,1);         // move cursor to second line "1" and 9
spaces over
  lcd.print(millis()/1000);    // display seconds elapsed since power-up

  lcd.setCursor(0,1);         // move to the begining of the second line
  lcd_key = read_LCD_buttons(); // read the buttons

  switch (lcd_key)             // depending on which button was pushed, we
perform an action
  {
    case btnRIGHT:
    {
      lcd.print("RIGHT ");
      break;
    }
    case btnLEFT:
    {
      lcd.print("LEFT  ");
      break;
    }
    case btnUP:
    {
      lcd.print("UP    ");
      break;
    }
    case btnDOWN:
    {
      lcd.print("DOWN  ");
      break;
    }
    case btnSELECT:
    {
```

```
    lcd.print("SELECT");  
    break;  
}  
case btnNONE:  
{  
    lcd.print("NONE  ");  
    break;  
}  
}  
  
}
```

From:

<https://hc-ddr.hucki.net/wiki/> - **Homecomputer DDR**

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