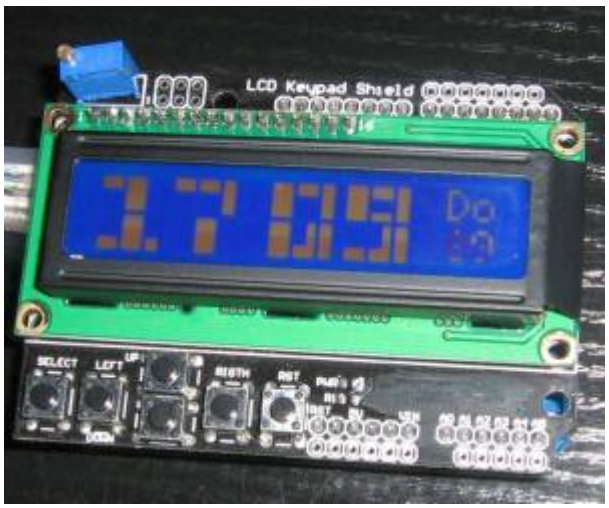
DFRobot LCD keypad Shield

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)

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)
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;
     }
 }

}
```