



10.02.2012



FTKL-Tagungsthema: AVR/Arduino

**open source -
Entwicklungssystem für**

- Windows
- Mac OS X
- LINUX



25€/BBG

Bild: ARDUINO Konzept
www.arduino.cc





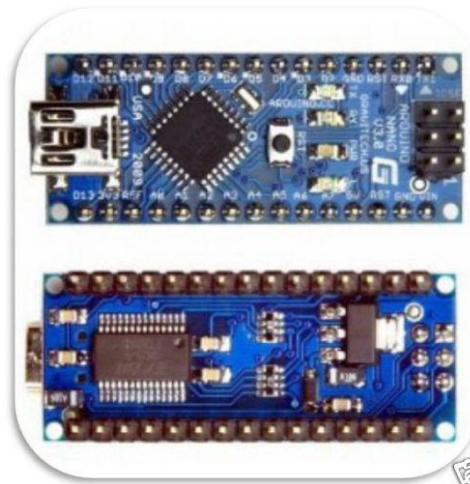
XXXduino Basisplatinen

25 €

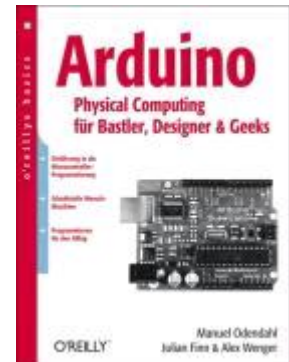


35€

ATMega 128



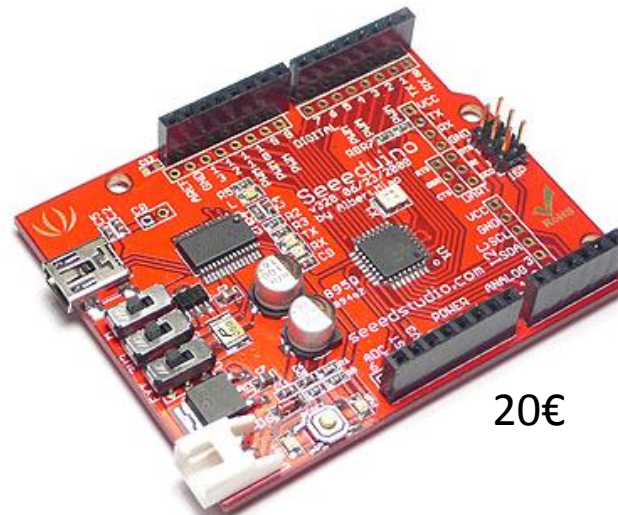
20€



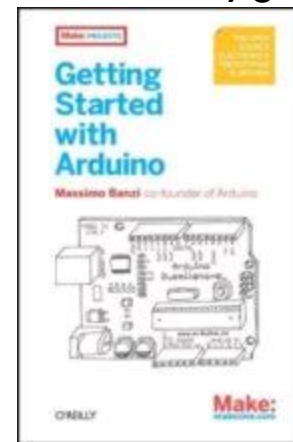
7€



Atmega 328 .. 20€



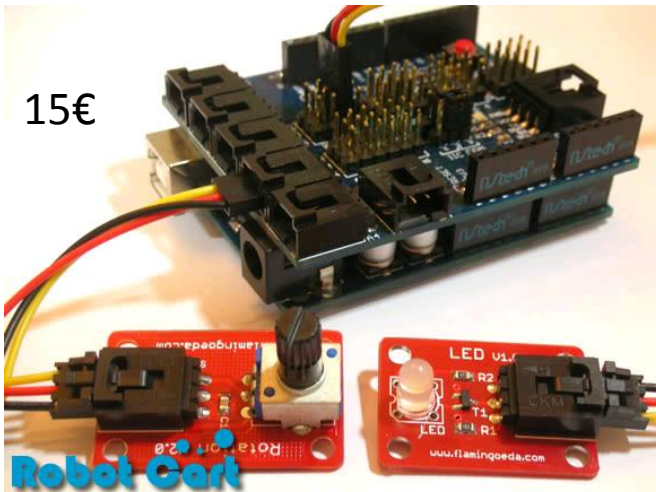
20€





XXXduino Zusatzplatinen

15€



LCD Modul

15€



25€



Arduino Ethernet Shield

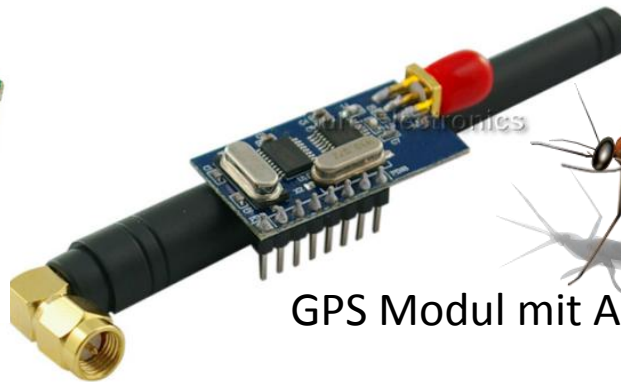


FTKL- Tagung 2012 – ARDUINO

Gyrator 14€



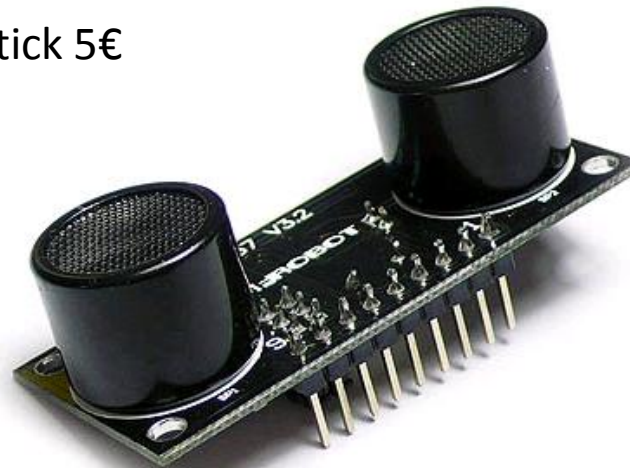
Transceiver 433MHz 9€



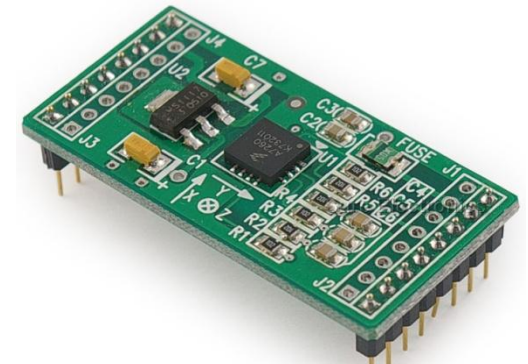
GPS Modul mit Antenne 27€



Joystick 5€



Ultraschall Entfernungsmesser 9€...20€



3-Achsen Beschlg. 11€



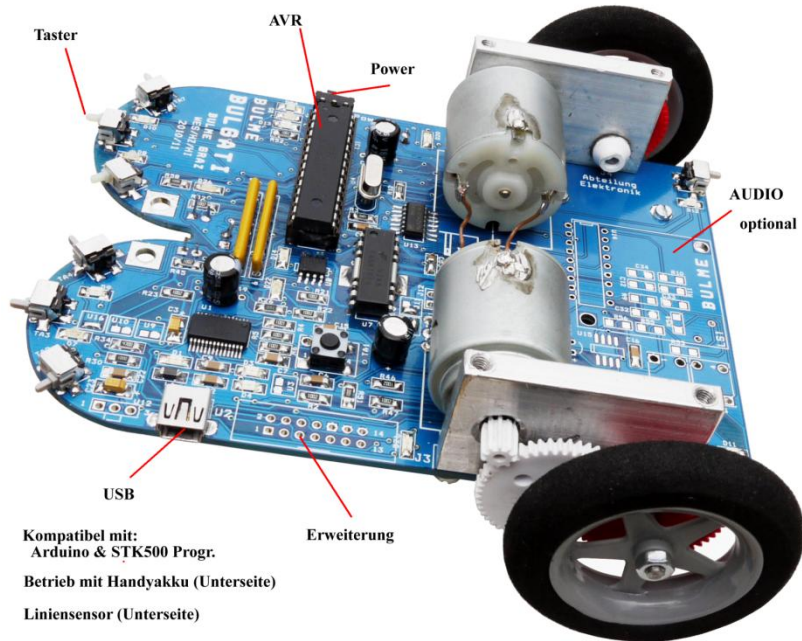
2-Achsigter Kompass 35€



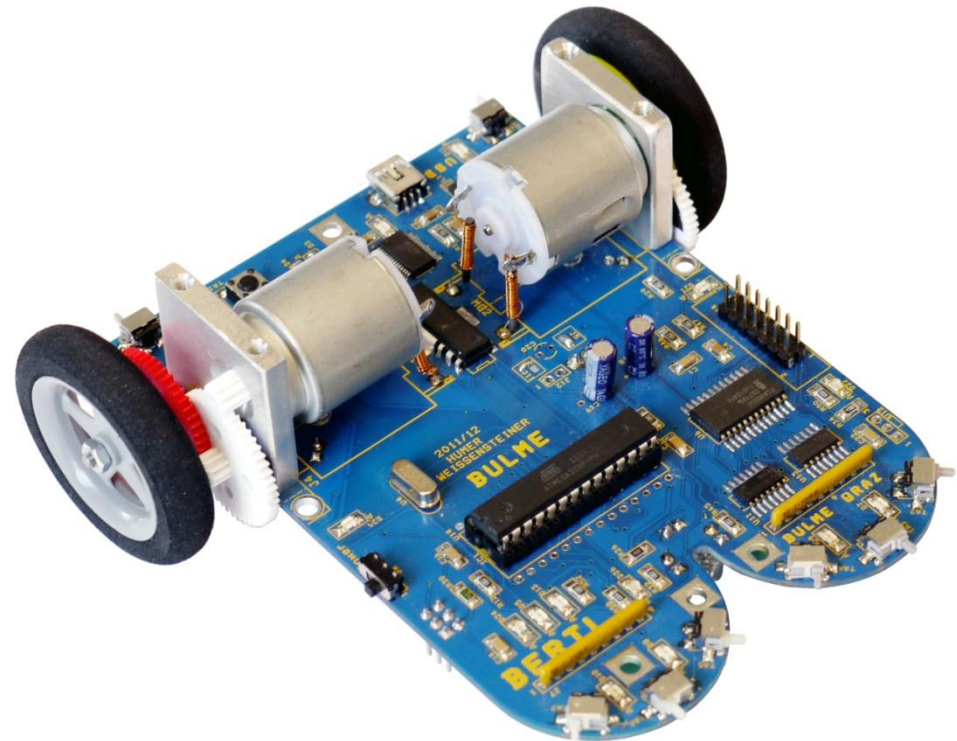
<http://www.coolcomponents.co.uk>,
www.seeedstudio.com, www.sparkfun.com



BULGATI (2011)

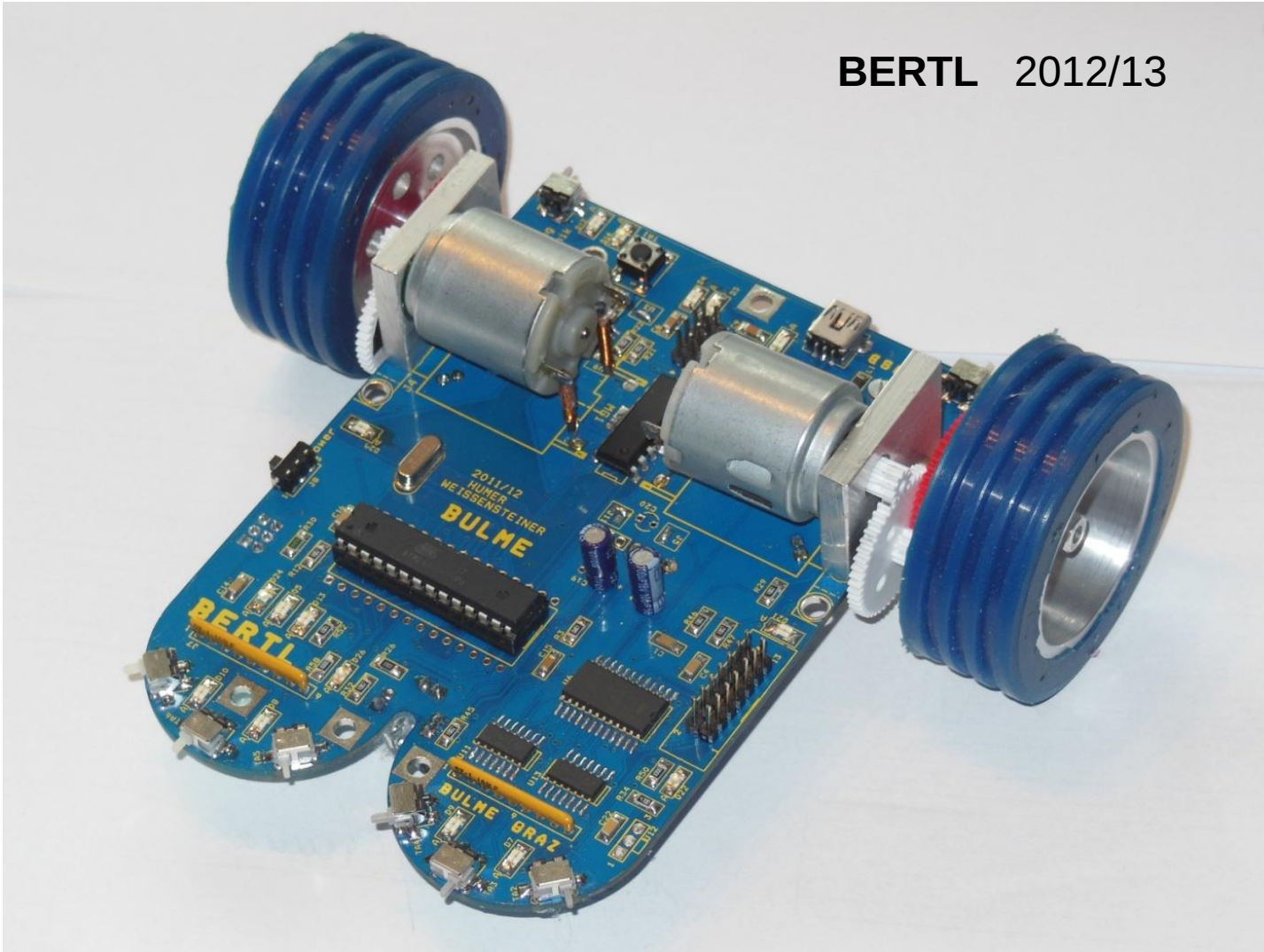


BERTL (2012)





BERTL 2012/13





ARDUINO – Nächste Generation?

<http://www.digilentinc.com>

Microchip® PIC32MX320F128 processor

80 Mhz 32-bit MIPS

128K Flash, 16K SRAM

Compatible with many existing Arduino™ code examples, reference materials and other resources

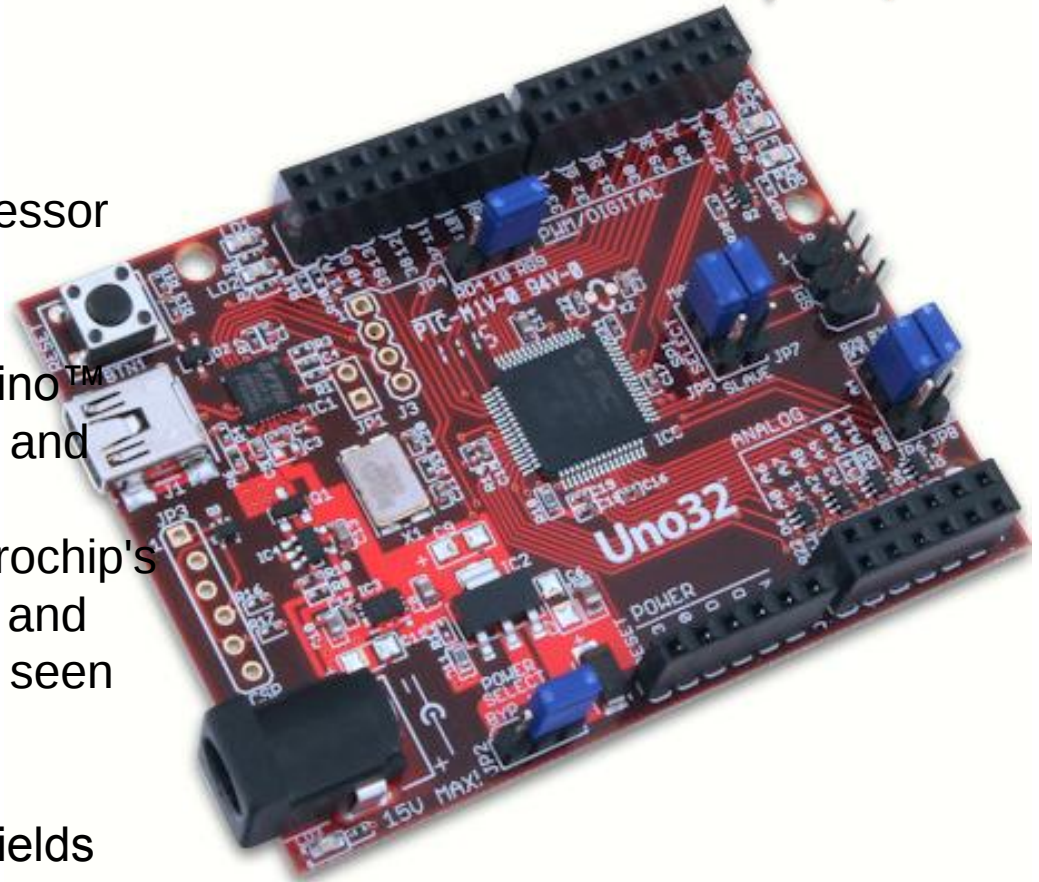
Can also be programmed using Microchip's MPLAB® IDE (along with a PICkit 3 and our PICkit3 Programming Cable Kit, seen below)

Arduino™ "Uno" form factor

Compatible with many Arduino™ shields

42 available I/O

User LED



30 €

FTKL- Tagung 2012 – Zukunft?

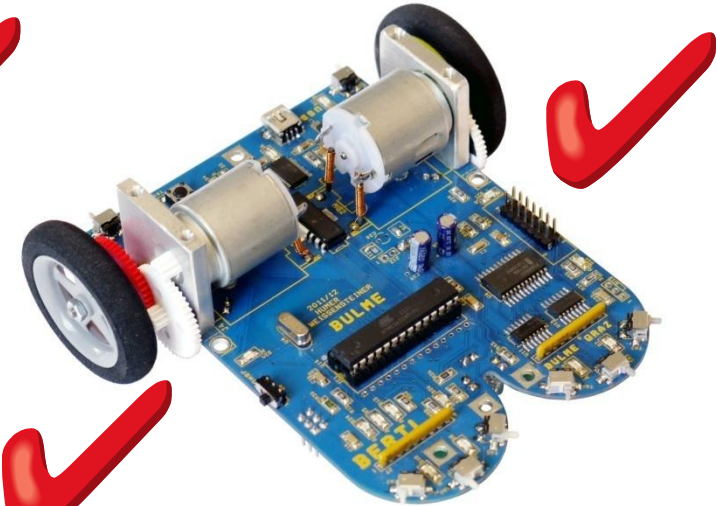
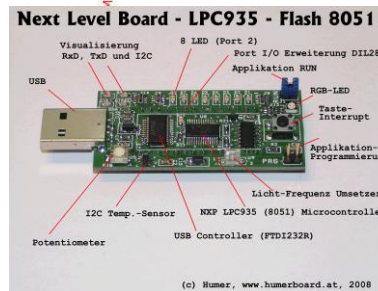
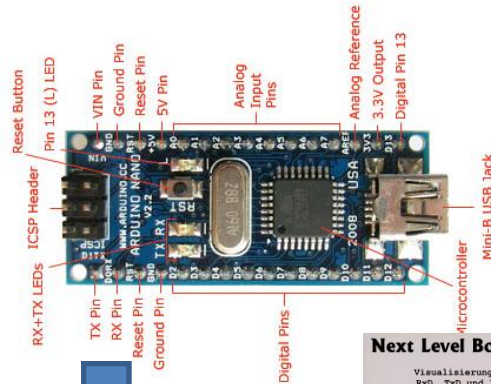


I .. V Jahrgang

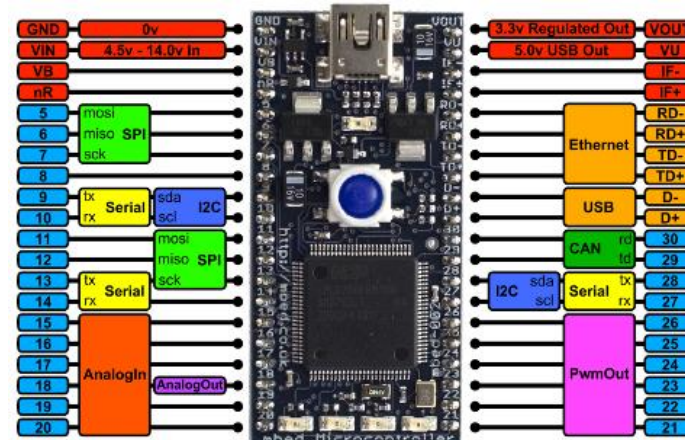
Arduino / AVR o. PIC

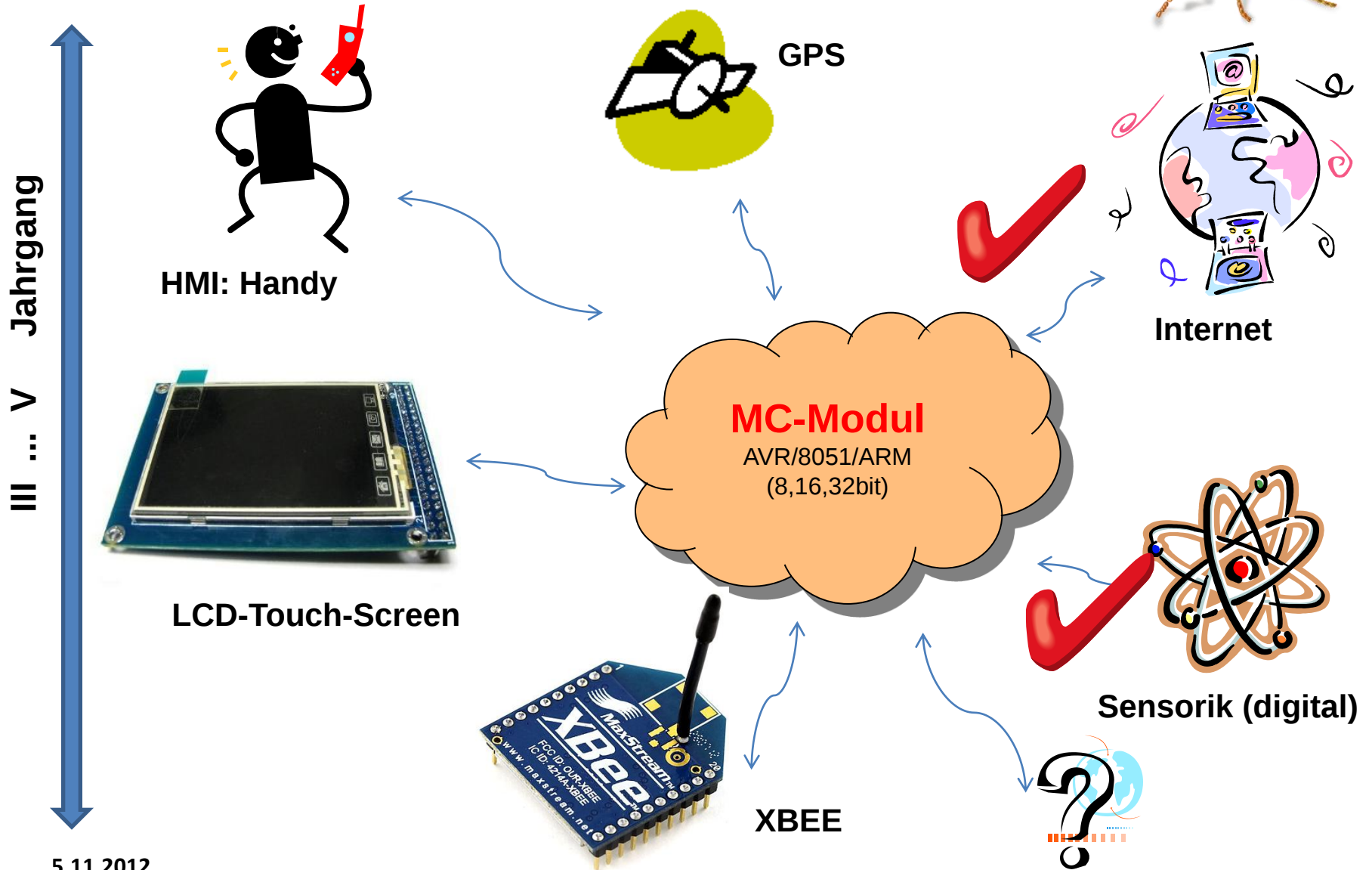
Ev. 8051-Flash

Cortex – M0 o. M3
mbed



Rapid Prototyping for Microcontrollers







FTKL- Tagung 2012 – M B E D



amazon.de

RS Suchbegriff, Teile-Nr. oder RS-Bestell **Suchen** Linecard Alle Produkte Unsere Marken Schnell Bestellen Mein Konto Kontakt Hilfe Login

Elektronische Bauelemente, Stromversorgung und Steckverbinder Elektromechanik, Automation und Kabel Mechanikkomponenten, Werkzeug- und Laborbedarf IT, Messtechnik, Schutz- und Sicherheitsprodukte 0 Produkte: € 0,00

electronica 2012 inside tomorrow **GEHEN SIE AUF DIE ELECTRONICA2012? BESUCHEN SIE RS IN HALLE A4, STAND 117 UND ENTDECKEN SIE UNSERE INNOVATIONEN**

RS Home > Halbleiter > Entwicklungskits > Entwicklungskits Prozessor & Microcontroller

ARM mbed LPC1768 Module



Bild vergrößern

Preis pro 1 Stück

Um alle Services zu nutzen: [Login](#)

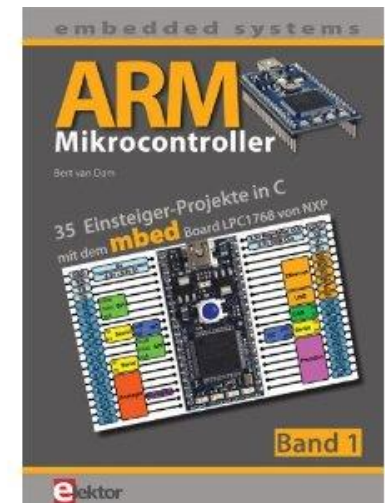
Menge 1 Preis € 49,53

Verfügbarkeit prüfen **Hinzufügen**

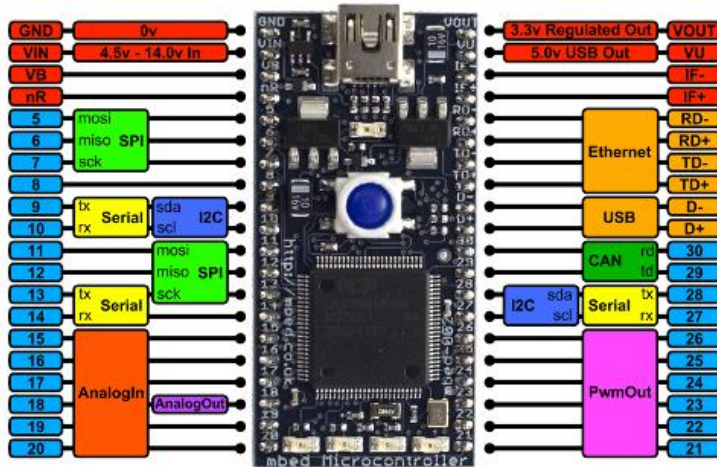
Verfügbarkeit Auf Lager
RS Best.-Nr. 703-9238
Hersteller **mbed**
Herst. Teile-Nr. MBED-LPC1768
RoHS-Status **kompatibel**
Kundenbewertung (0) [Bewertung schreiben](#)

mBed Prototyping Matrix board

Kaufen Sie mBed Prototyping Matrix board



5.11.2012



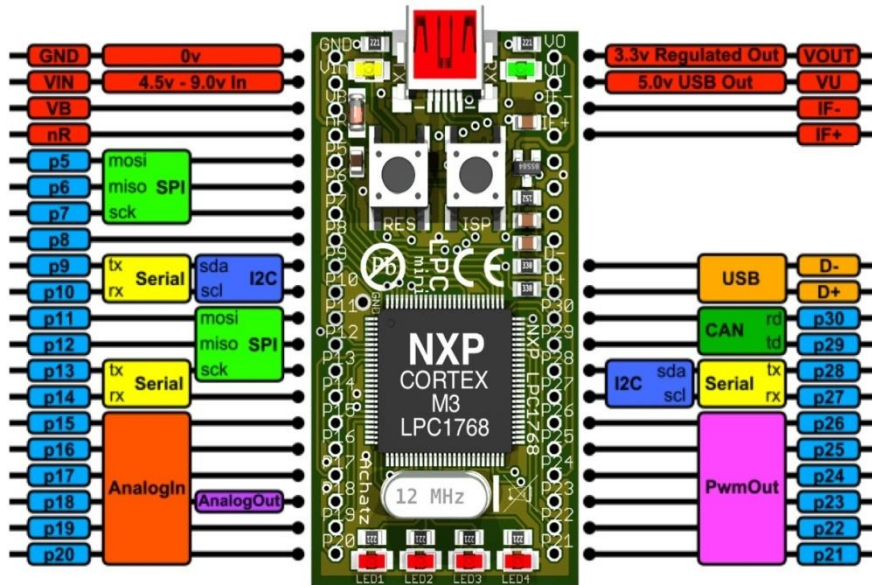
// Beispielprogramm für AnalogIn

```
#include "mbed.h"
AnalogIn ain(p20);
DigitalOut led(LED1);
int main()
{
    while (1)
    {
        if(ain > 0.3) // >30%
            led = 1;
        else
            led = 0;
    }
}
```

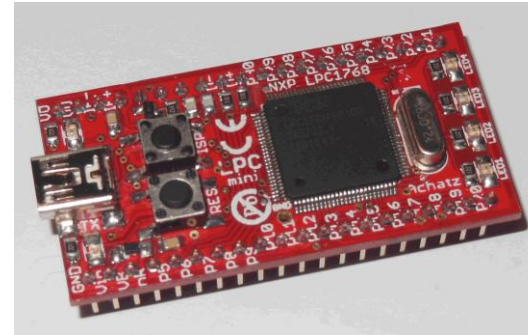


// Beispielprogramm „8051er“ C517A, Analog In
#include <reg517a.h>

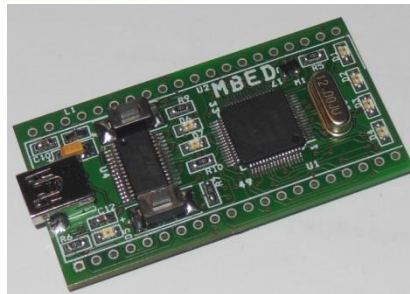
```
sbit led = P4^1;
void read_adc(char kanal);
int main()
{
    while(1)
    {
        if(read_adc(0)>308) // Poti=Kanal 0, 30%
            led = 1;
        else
            led = 0;
    }
}
int read_adc(char kanal)
{
    ADCON1=kanal; // Kanal wählen
    ADDATL=0; // Start ADC
    while(BSY); // Warte bis fertig
    return((ADDATH<<2)+(ADDATL>>6)); // 10 bit Wert
    retour
}
```



Cortex M3 (mbed) LPCmini
Materialpreis ca. 20€
Werkstätte – löten und testen

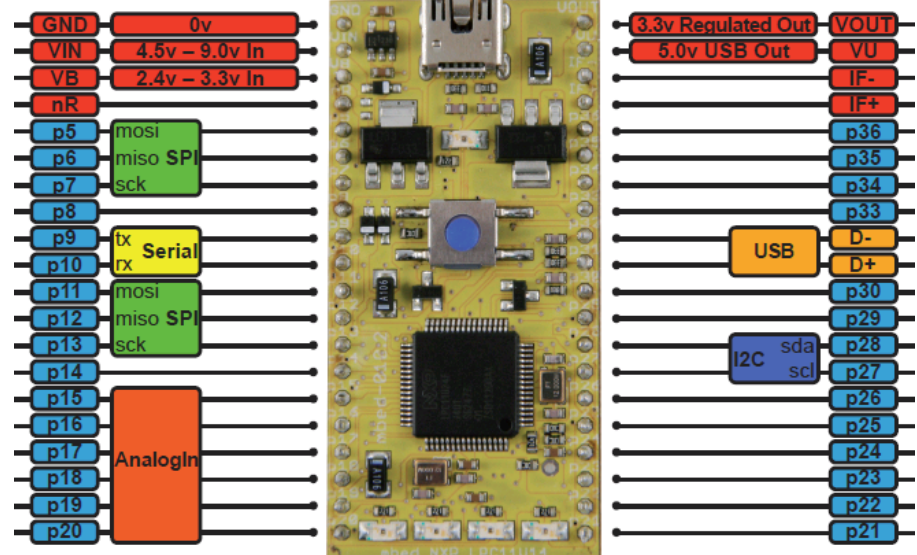


Eigenbau
BULME GRAZ



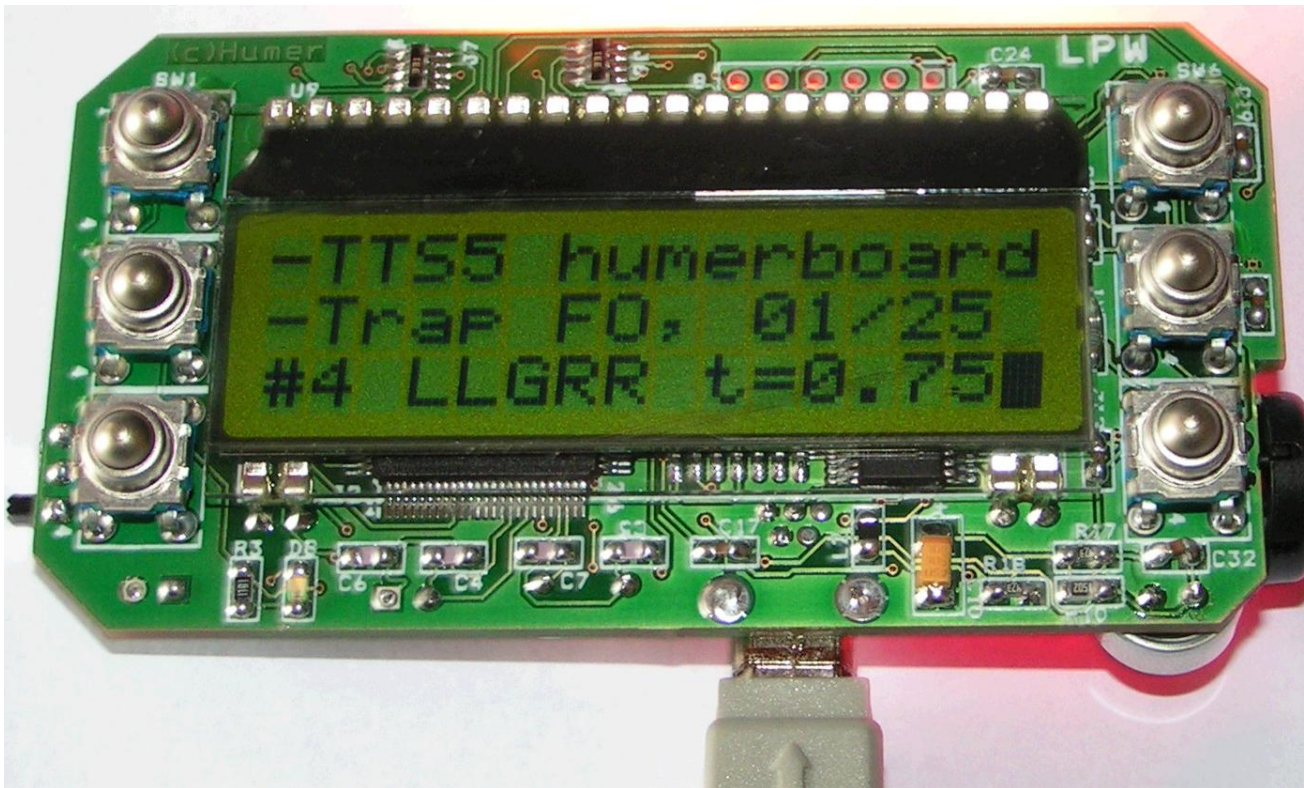
Eigenbau
BULME GRAZ

Cortex M0 (mbed)
Materialpreis ca. 10€
Werkstätte – löten und testen





Mbed-Beispiel: Diplomarbeit „Trap Training System“



Beschleunigung
und
Gyrator 3 Achsen
Kompass
Luftdruck
Puls



TERMIN FTKL-Tagung 2013

Thema: FTKL, NLP, DAs

- Mo., 4(11). November 2012
- ORT: (?) BULME Graz
- 2 Halbtage
- Erfahrungsaustausch (?)

