

Entwicklung

Hardware

Pinbelegung

Pegel

Segmentnutzung/Kontaktbelegung

spannungsversorgung

schaltplan

controller anbindung

interface

adapter/schaltplan

uart einstellungen

Software

pc front end

protokoll

pap Ablaufplan

betriebsarten

send

prog

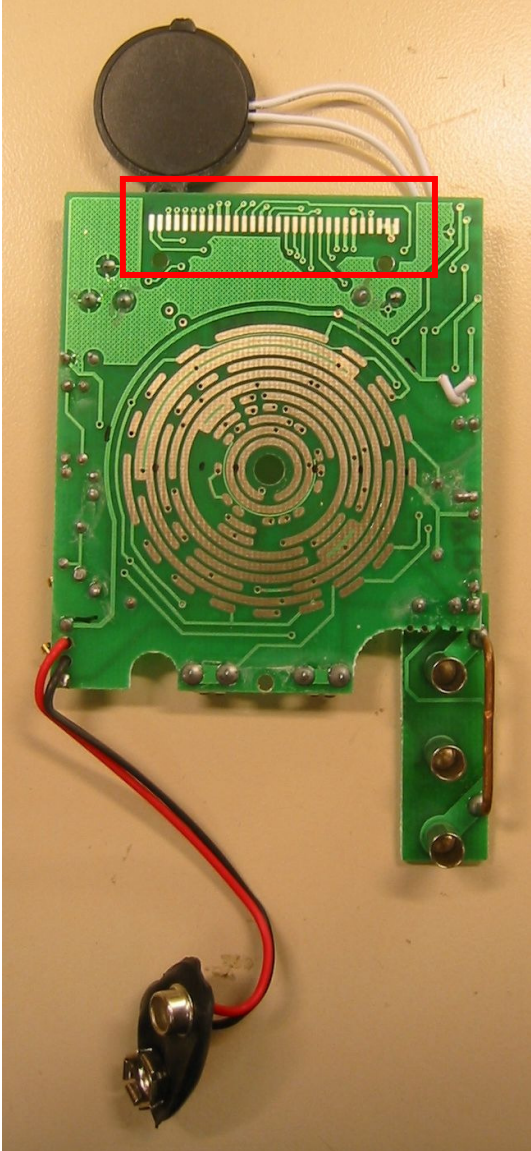
adr

answer/request

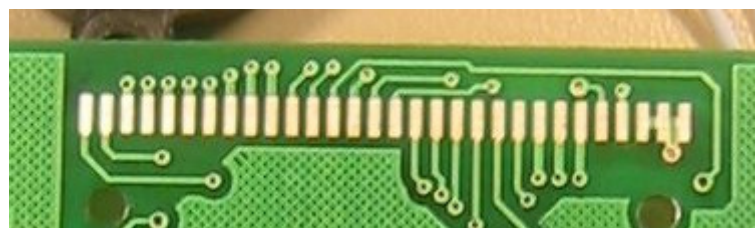
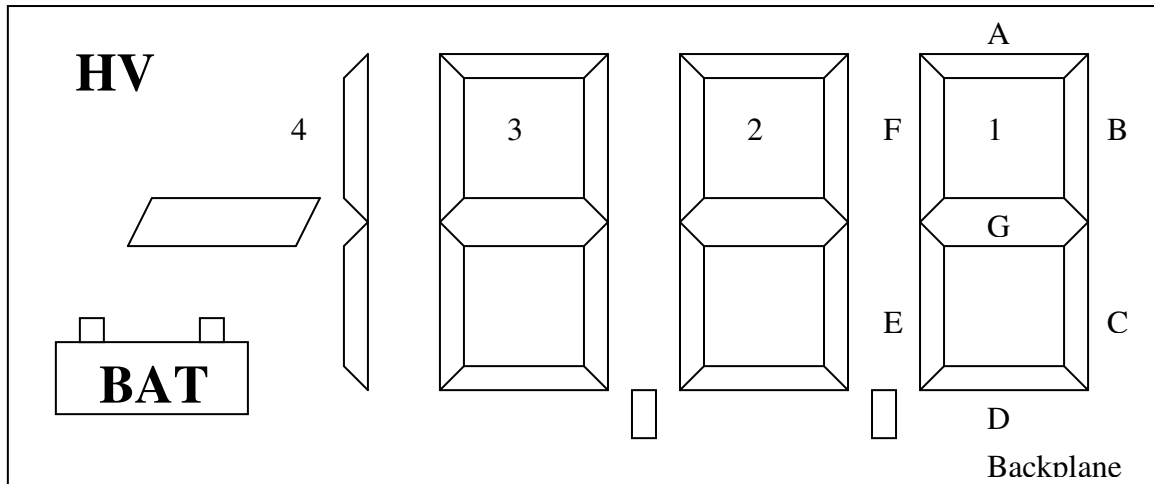
adapter für pc

umprogrammieren

Übersicht

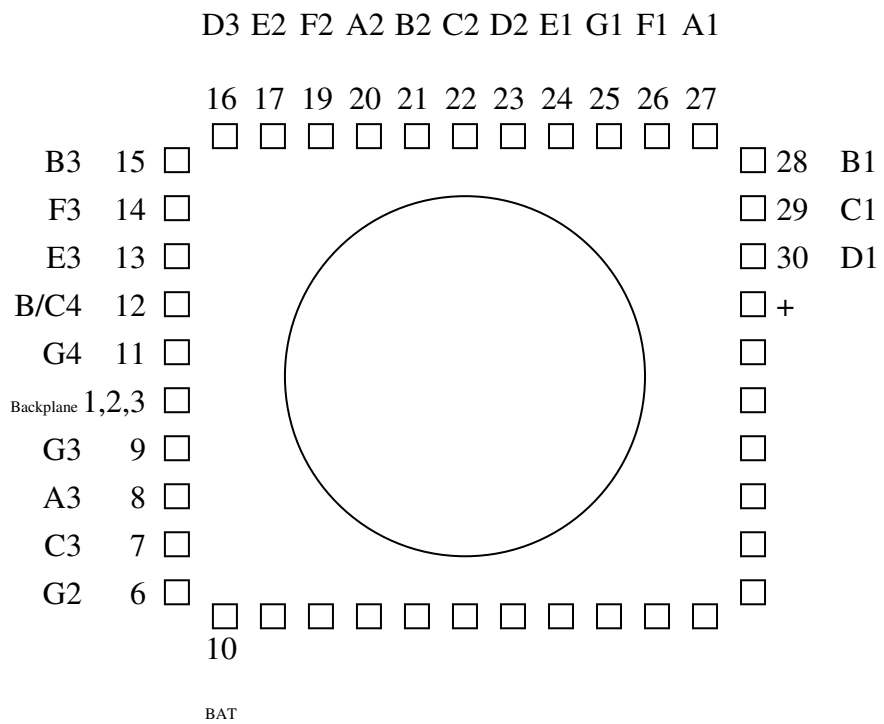
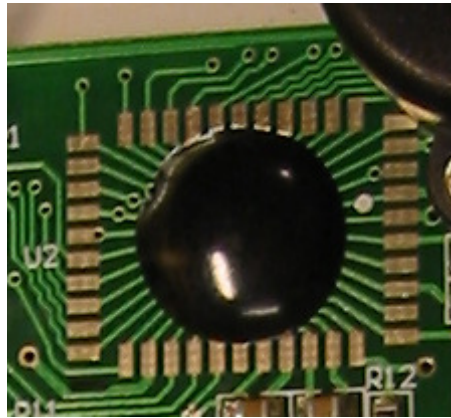


Display Pinbelegung

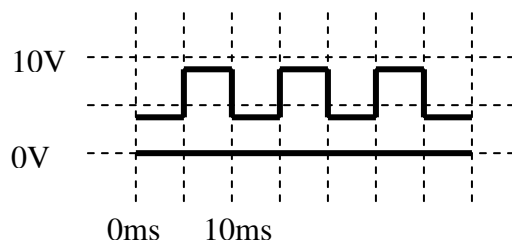
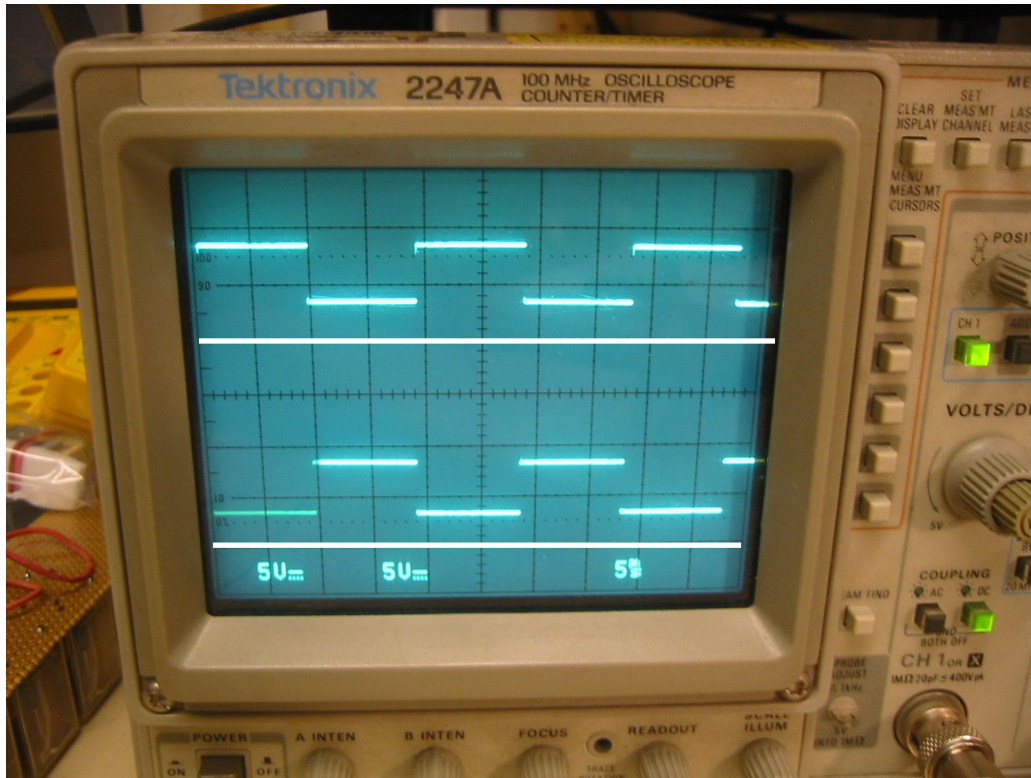


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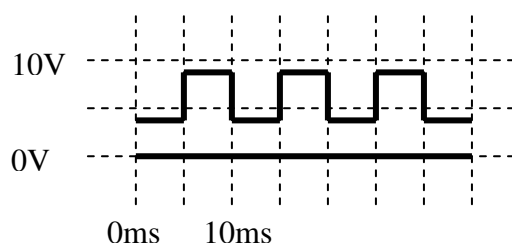
Pinbelegung am Chip



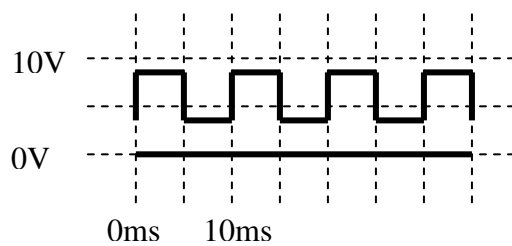
Pegel am Segment



SIGNAL @ 1,2,3 Backplane Display

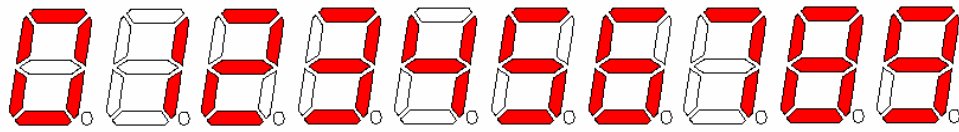


SIGNAL @ Segment (Off)

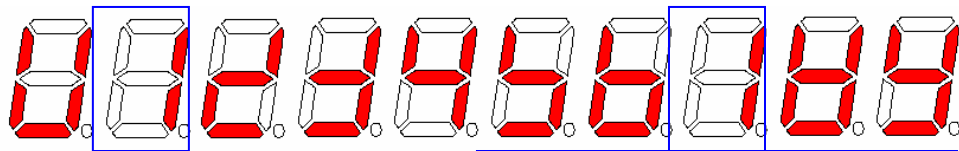


SIGNAL @ Segment (On)

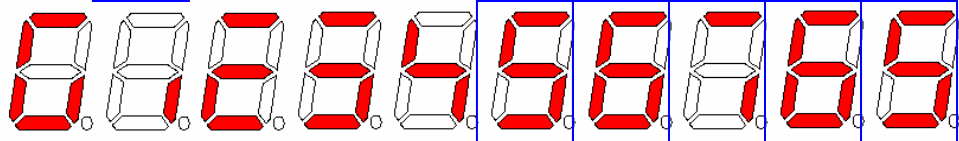
Segment Ausnutzung



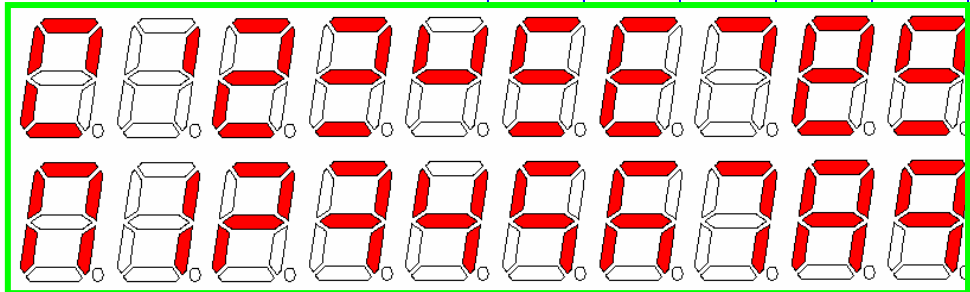
NORM



-A : 1,7

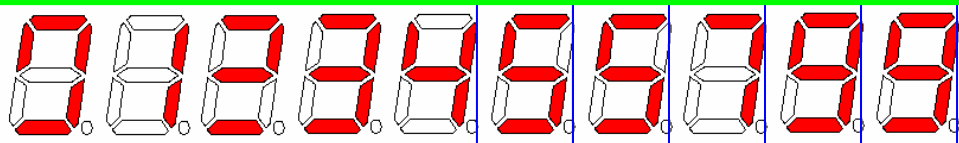


-B : 6,8 5,9

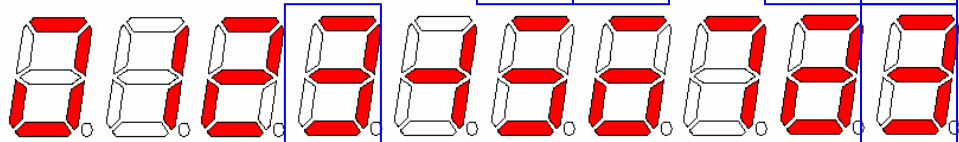


-C : OK

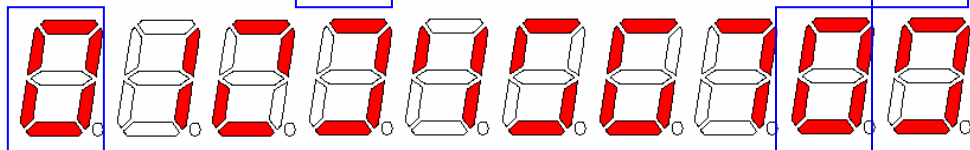
-D : OK



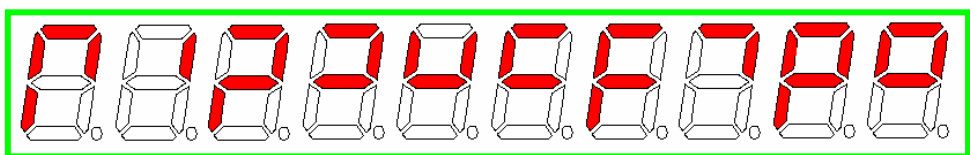
-E : 5,6 8,9



-F : 3,9

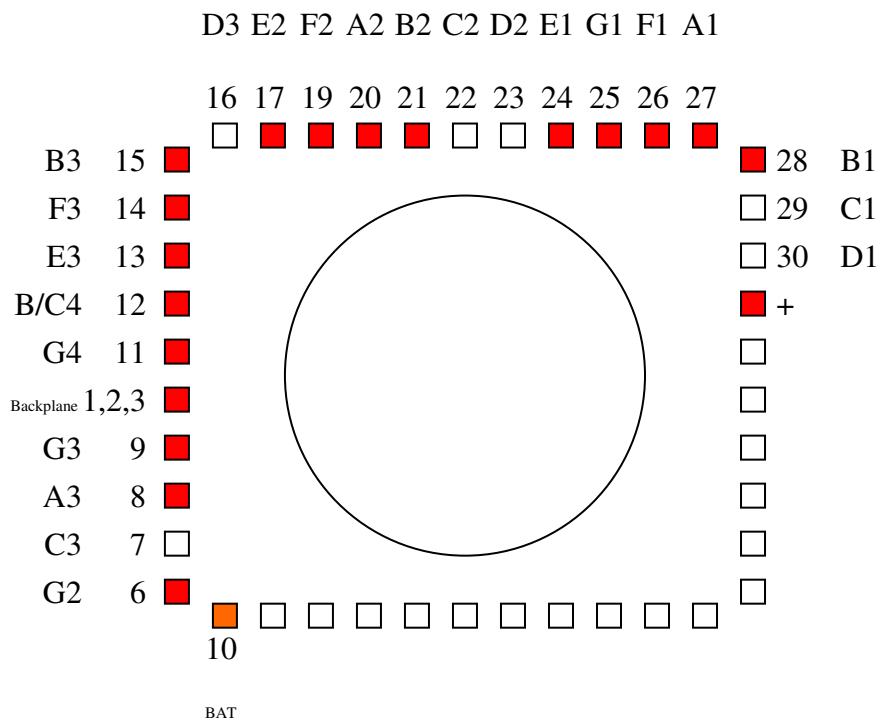


-G : 0,8

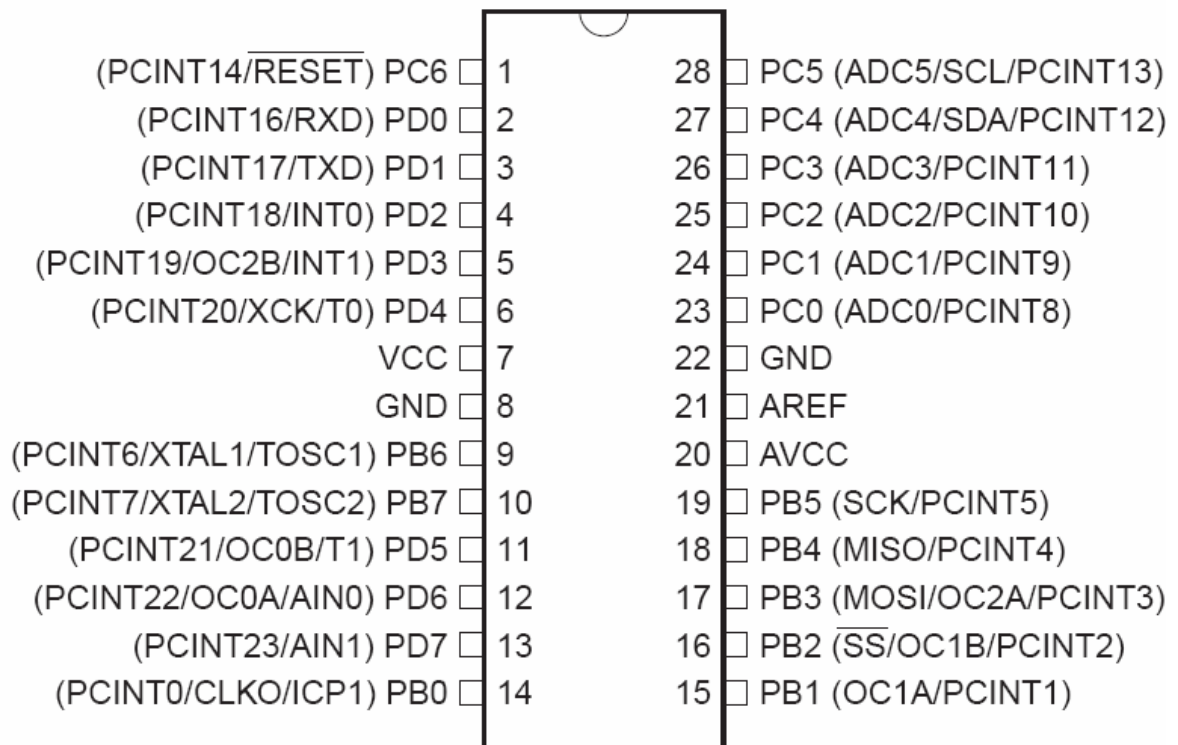
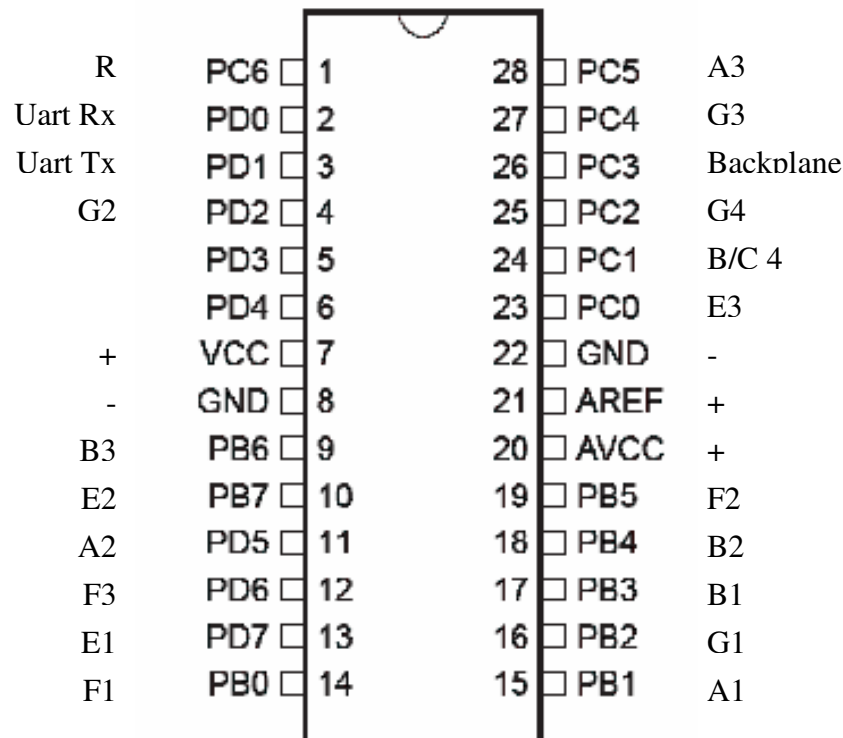


-C-D : OK

Multimeter Chip benutze Pins

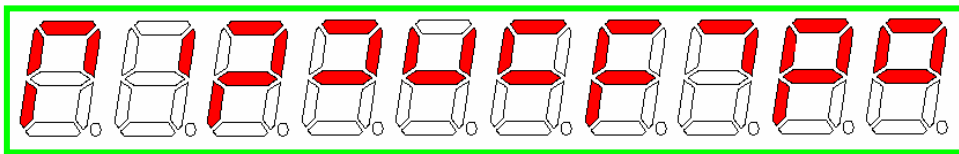


Atmega Pinnig to Display



7 Segment Dekodierung

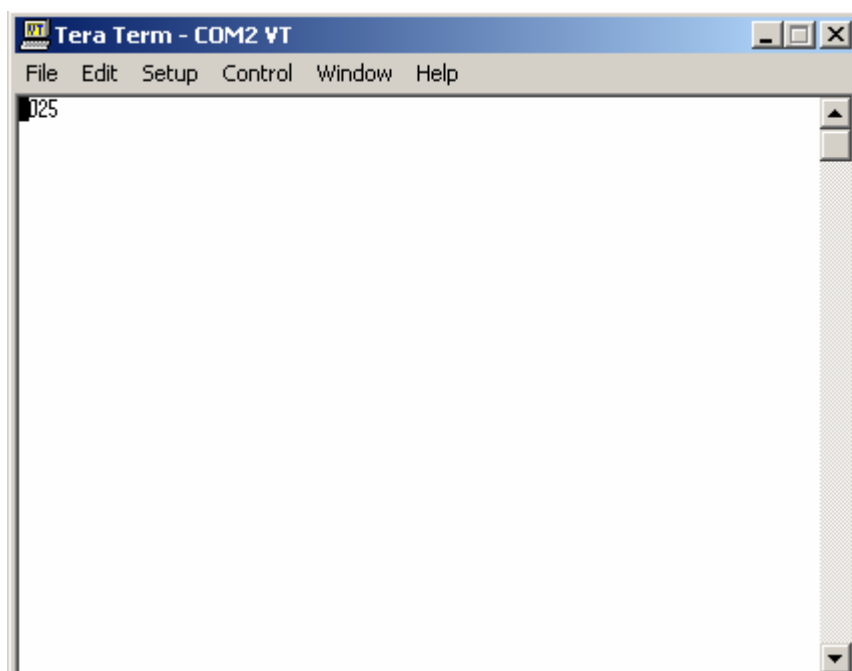
GFEBA		
01111	0x0f	0
00010	0x02	1
10111	0x17	2
10011	0x13	3
11010	0x1A	4
11001	0x19	5
11101	0x1D	6
00011	0x03	7
11111	0x1F	8
11011	0x1B	9



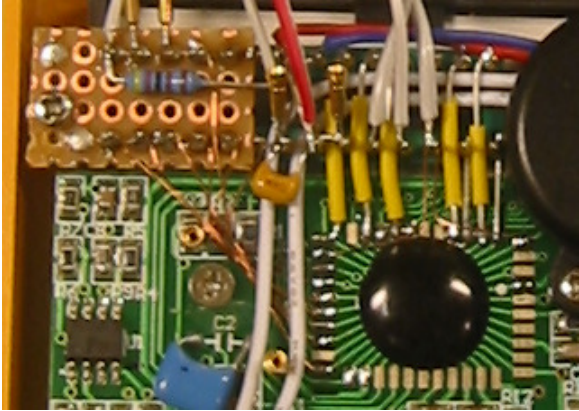
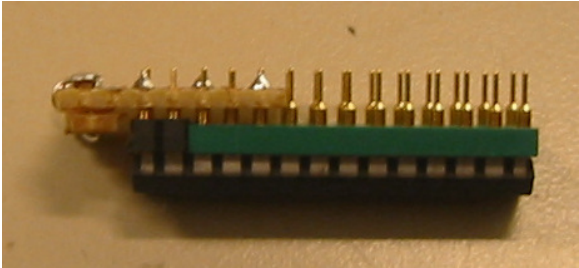
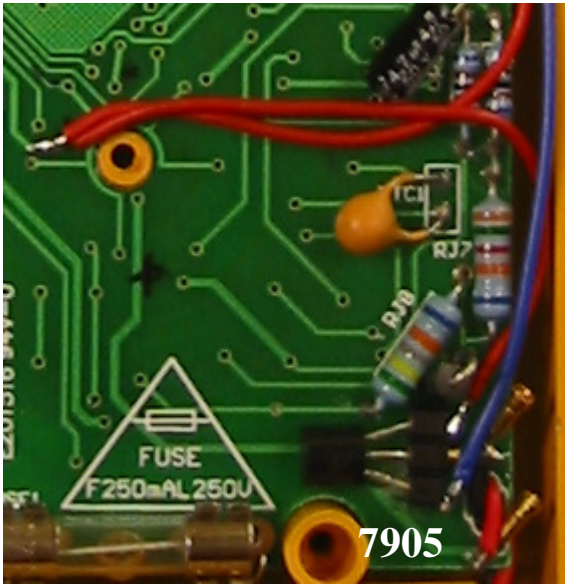
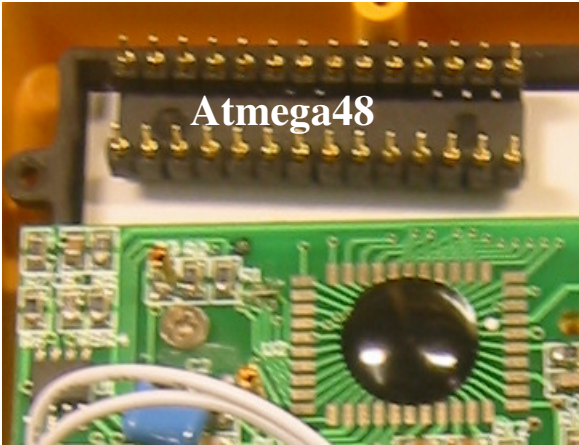
Zusätzliche Fälle:

GFEBA		
00000	0x00	space
xxxxx	n.d.	-

Erste tests 25ohm



Aufbau



Erster Testaufbau

Materialiste Reichelt Konfiguration 1

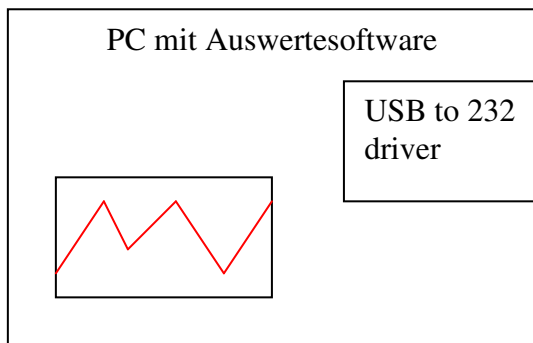
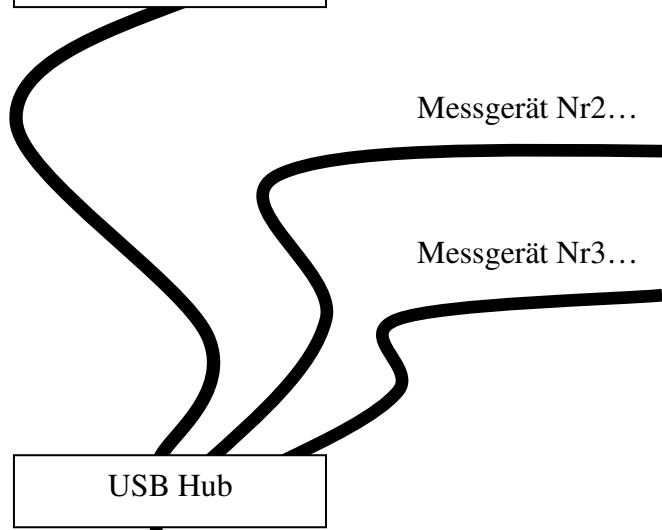
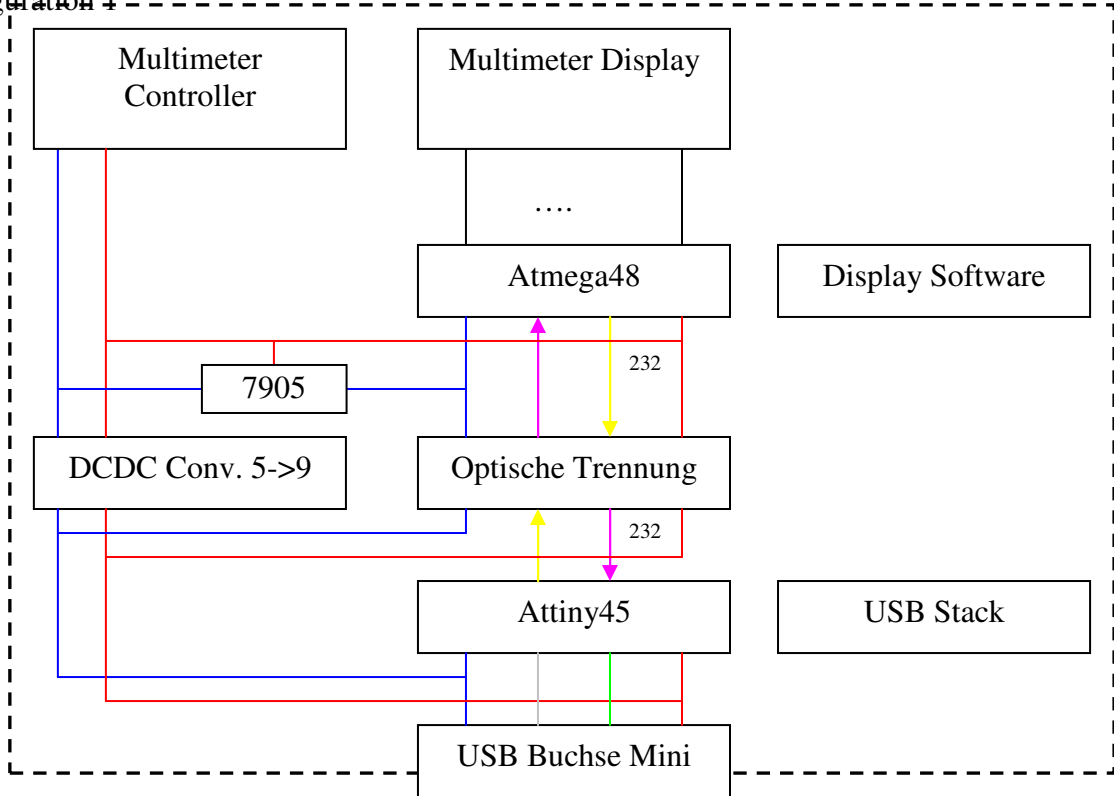
Materialiste Reichelt Konfiguration 2

Materialiste Pollin

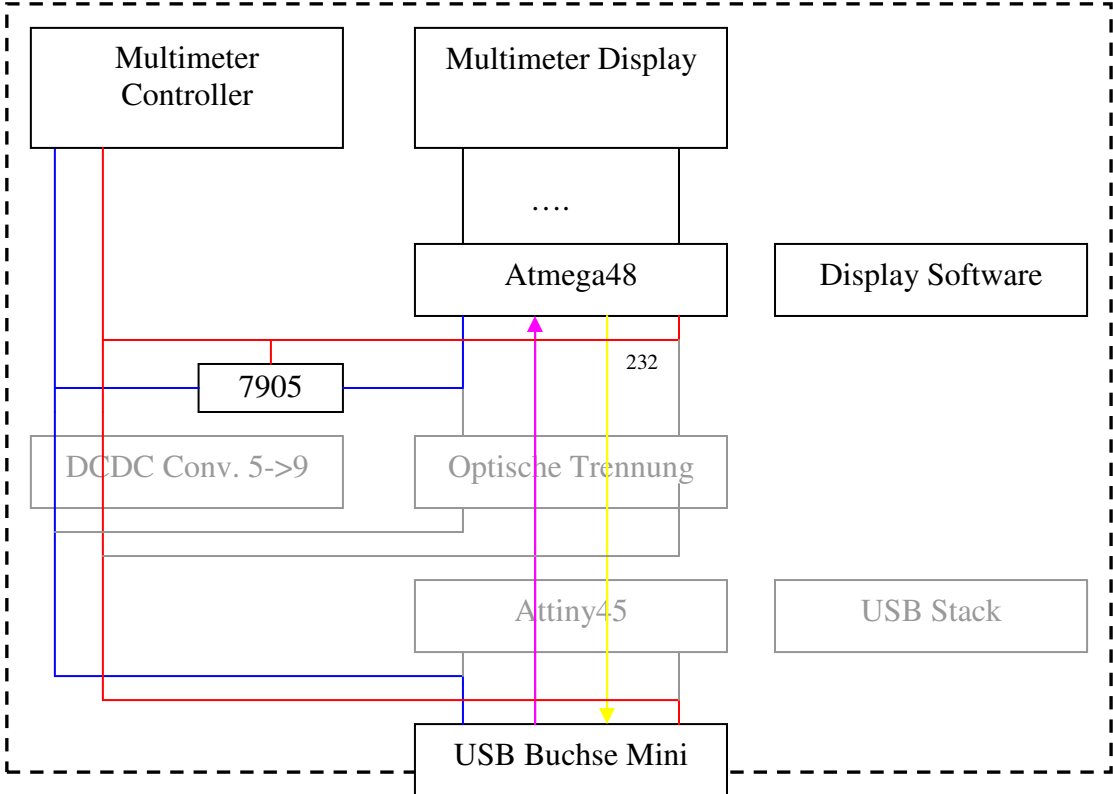
Materialiste Pollin Konfiguration 1

Materialiste Pollin Konfiguration 2

Konfiguration 1



Konfiguration 2 (LOW COST) auch für mikrocontrolleranwendungen (Empfangseitig)



Platinenlayout

