



Werkstätte

XY - Plotter Werkstättenprojekt 4BHELI 2007/08

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von
7

Michael Stocker
Bernhard Wintersperger



Werkstätte

Allgemeines

- XY – Plotter
- Platinenbohrmaschine
- Schrittmotoransteuerung
- μ Controller



Schrittmotoransteuerung

- 12V
- 3
Unipolar
- MOSFET
- keine Ansteuerungschips

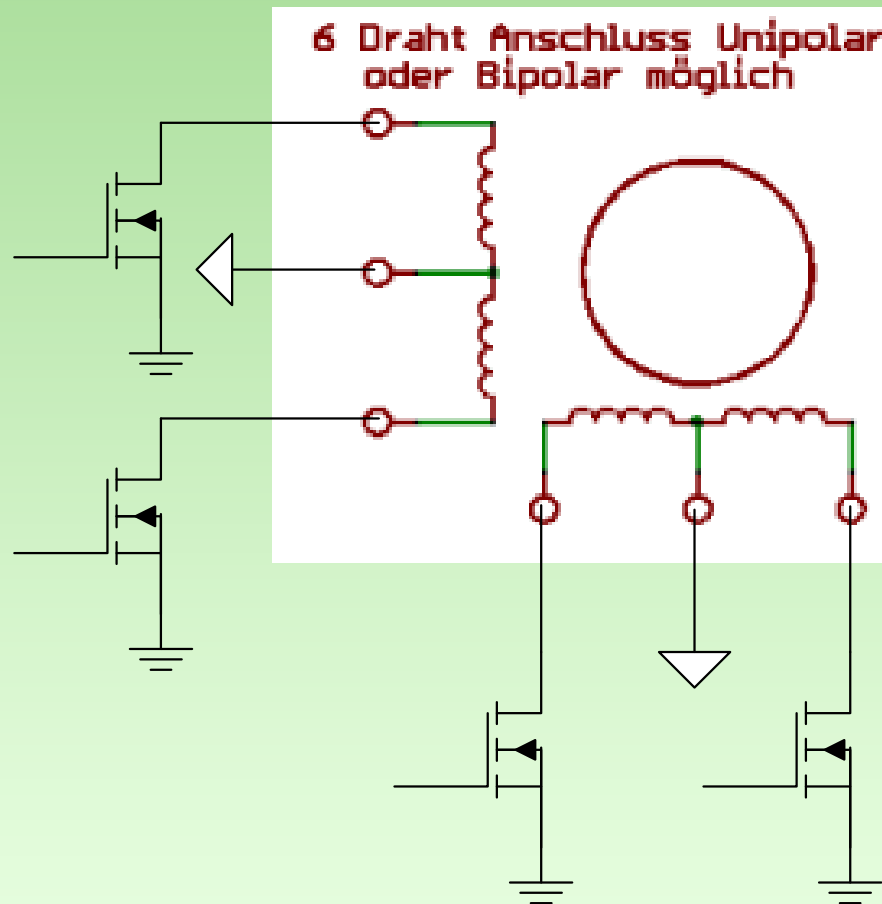




Werkstätte

Schrittmotoransteuerung - Unipolar

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Werkstätte

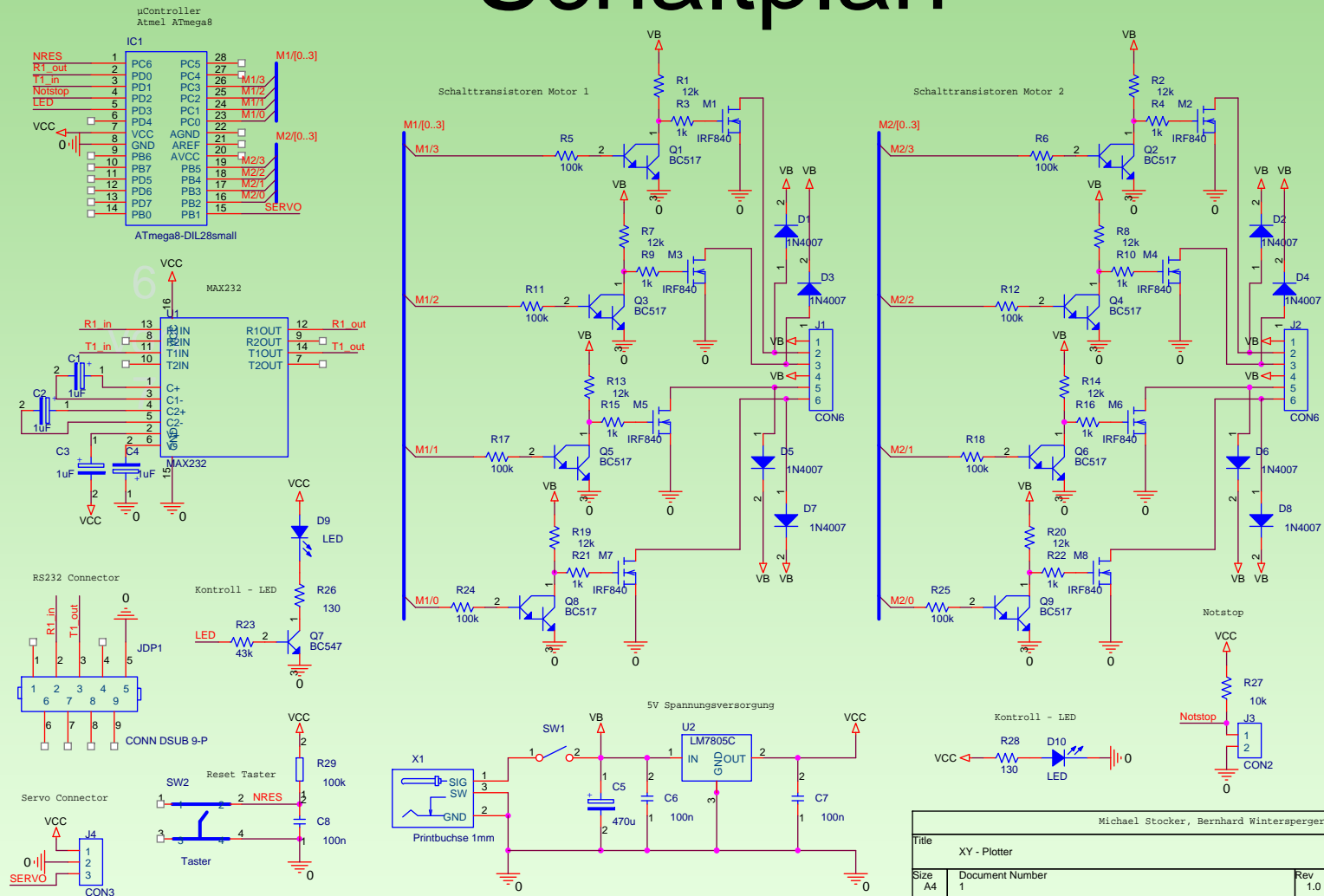
Schaltung

- Atmel ATmega8
- Schalttransistoren
- Zweiseitige Platine
- SMD

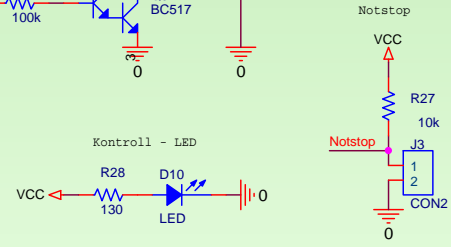
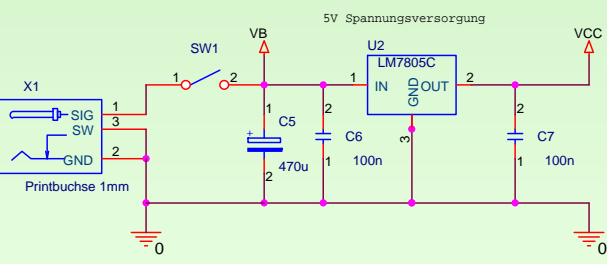
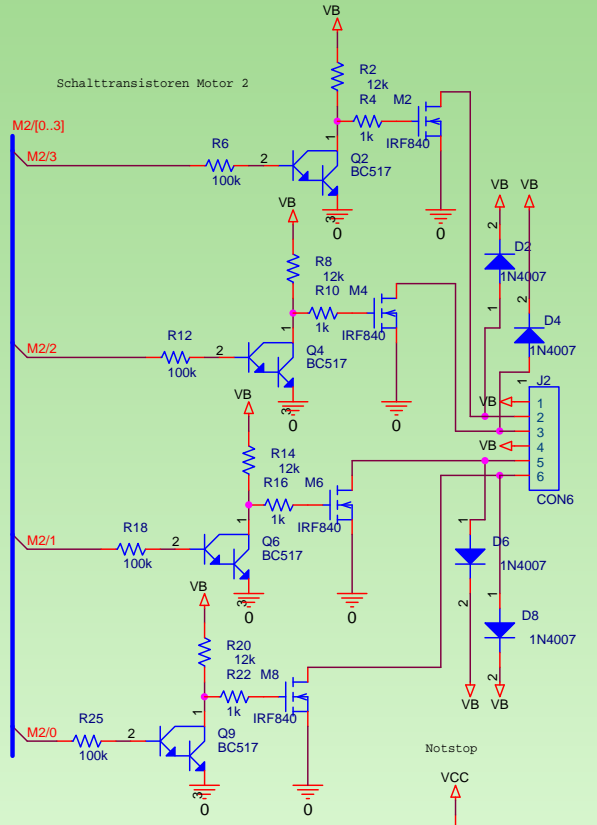
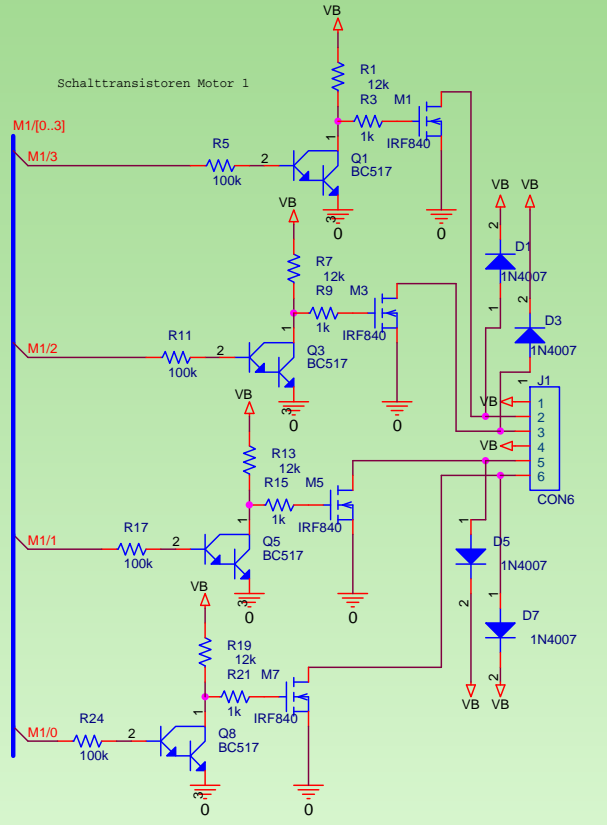
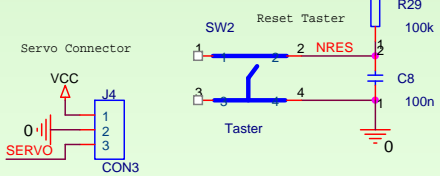
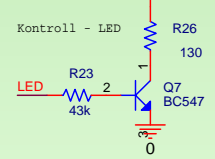
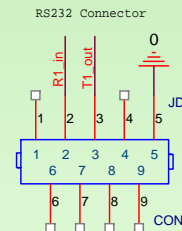
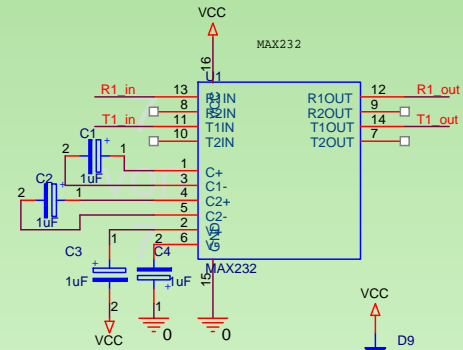
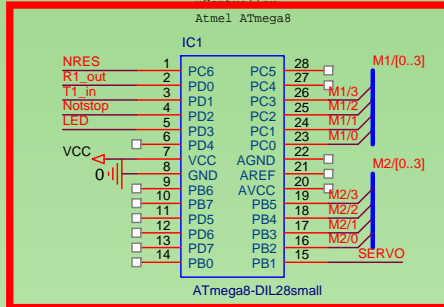


Werkstätte

Schaltplan



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Title XY - Plotter		
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Date: Friday, March 07, 2008	Sheet 1	of 1



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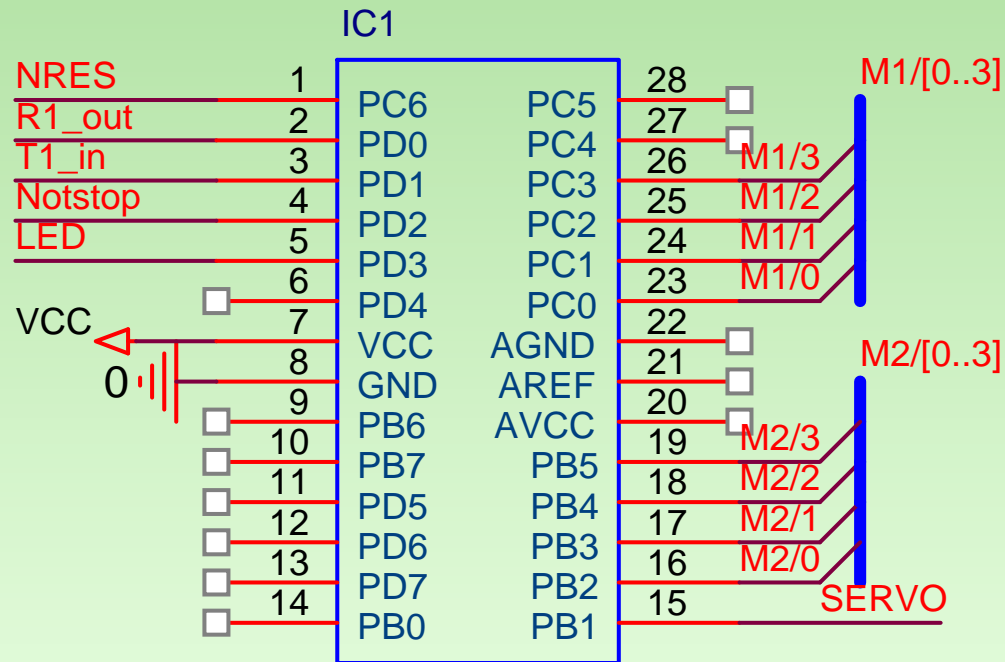


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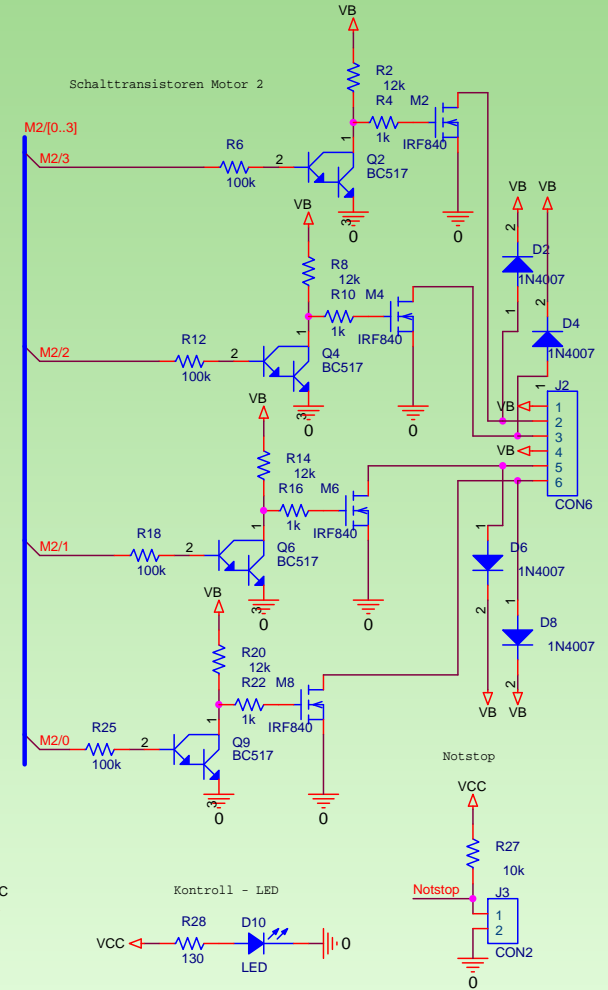
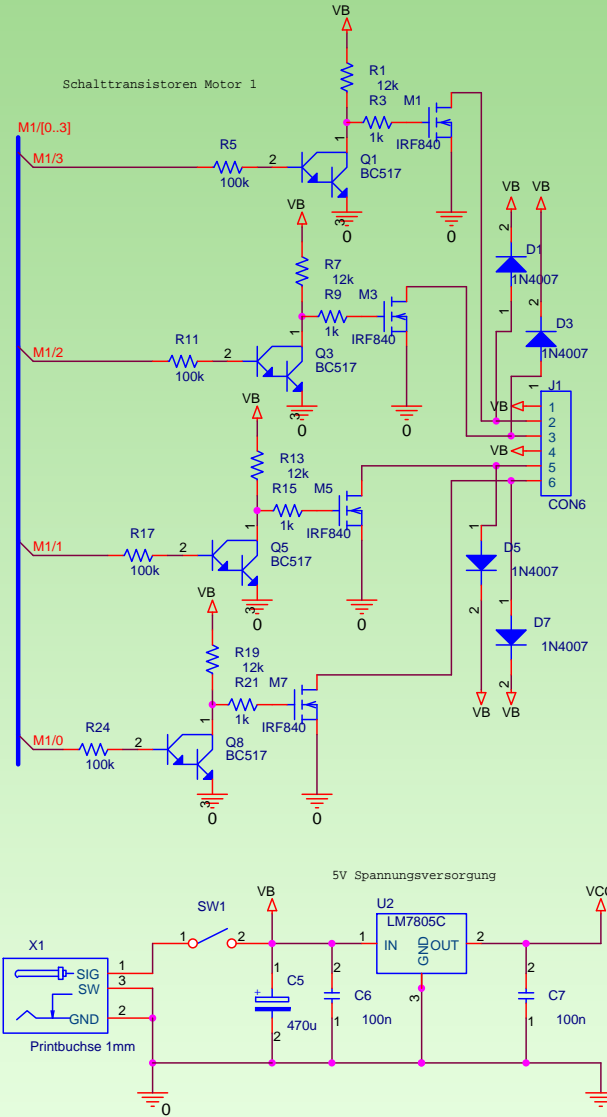
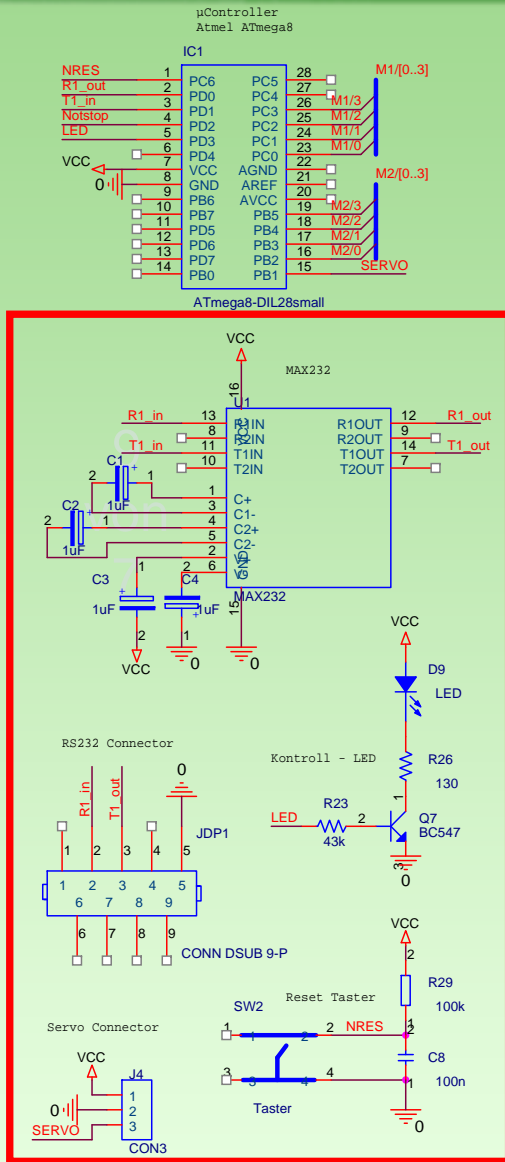
µController

µController
Atmel ATmega8

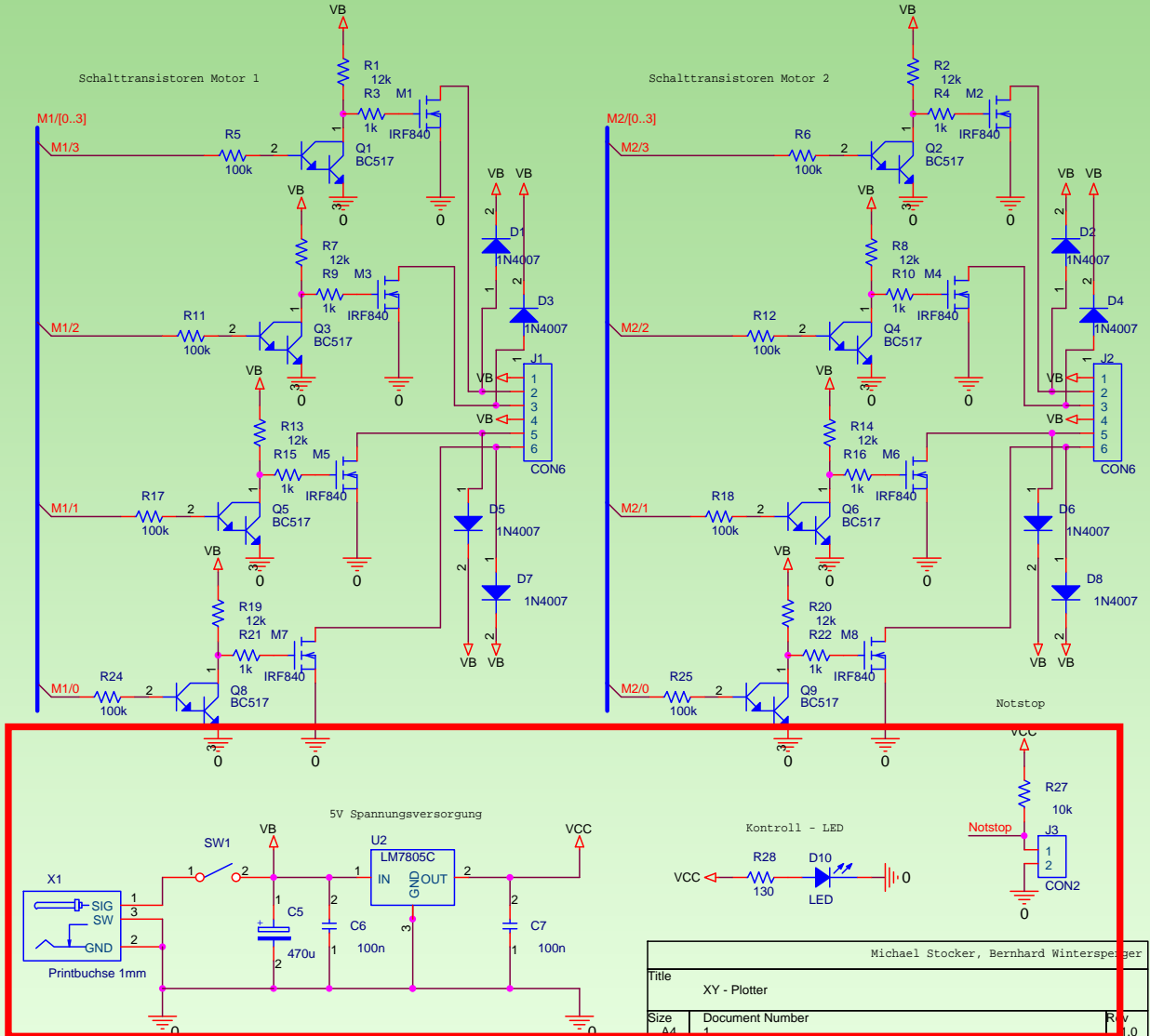
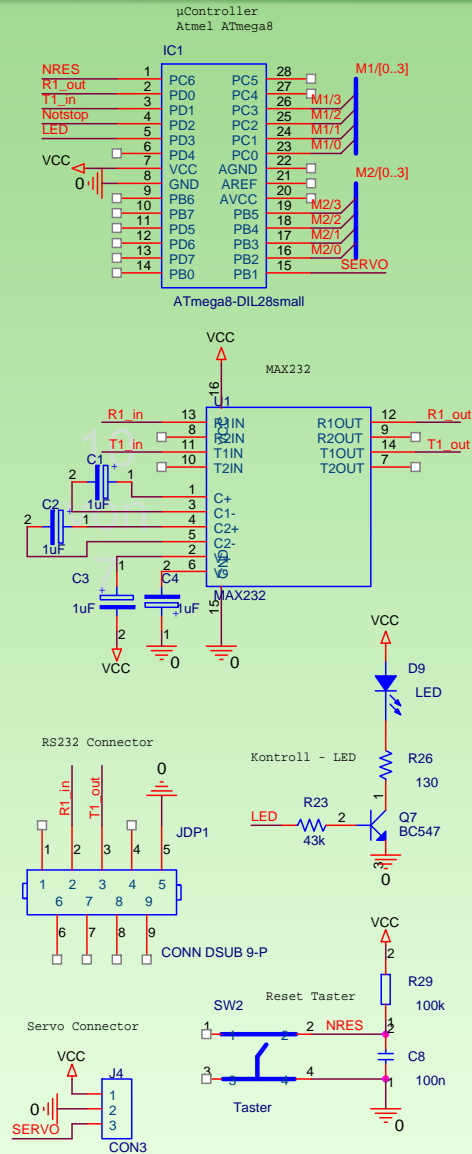
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ATmega8-DIL28small



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Date:	Friday, March 07, 2008	Sheet 1 of 1



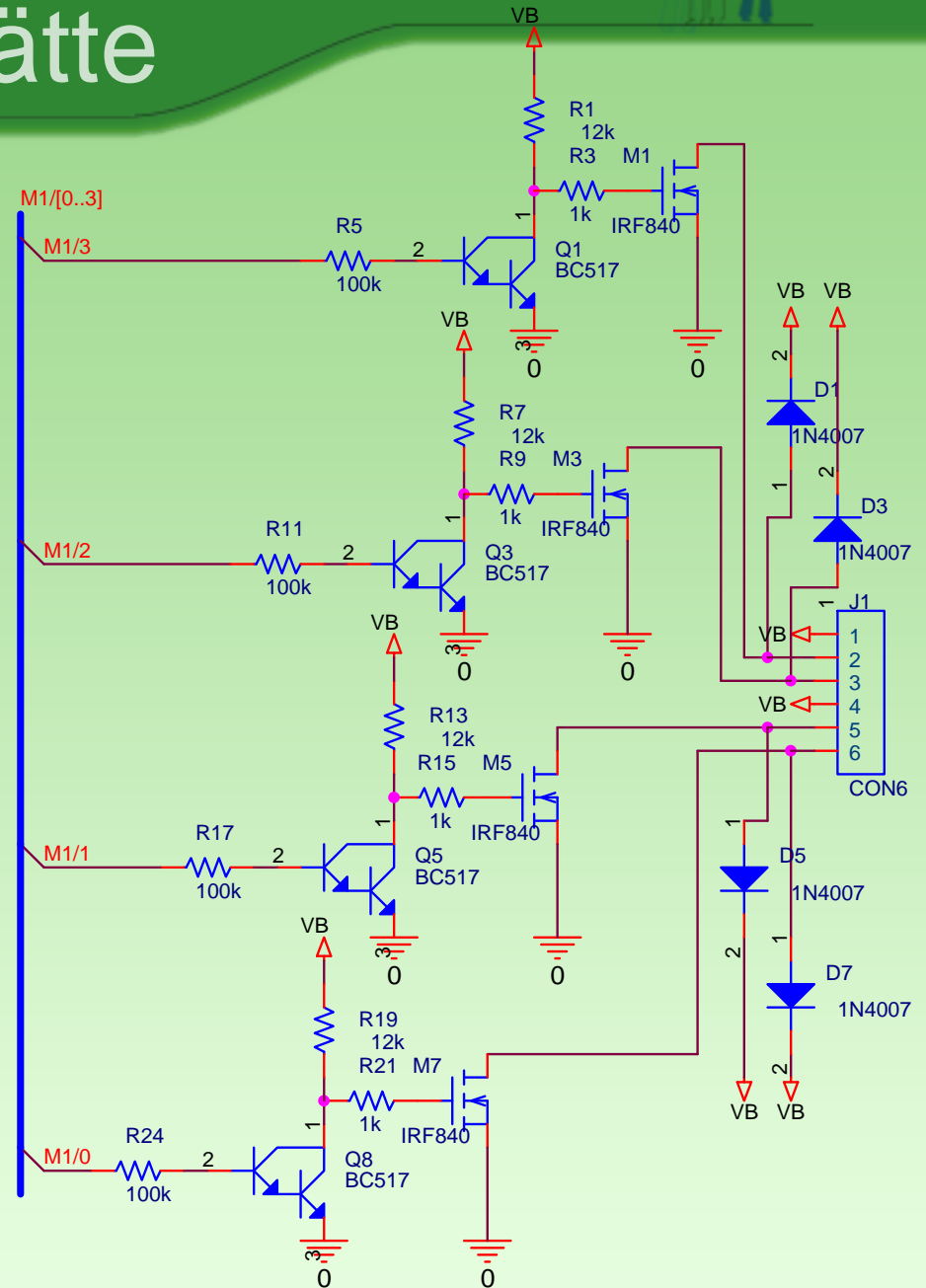
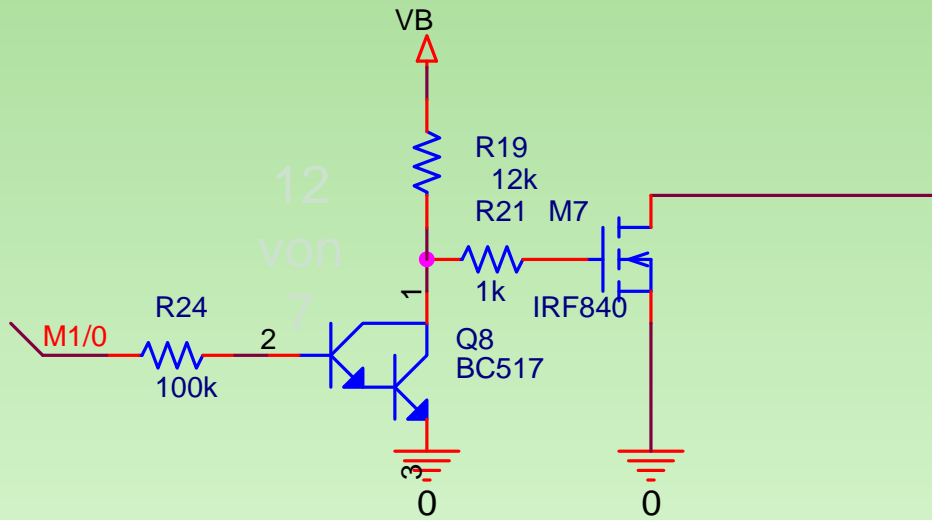
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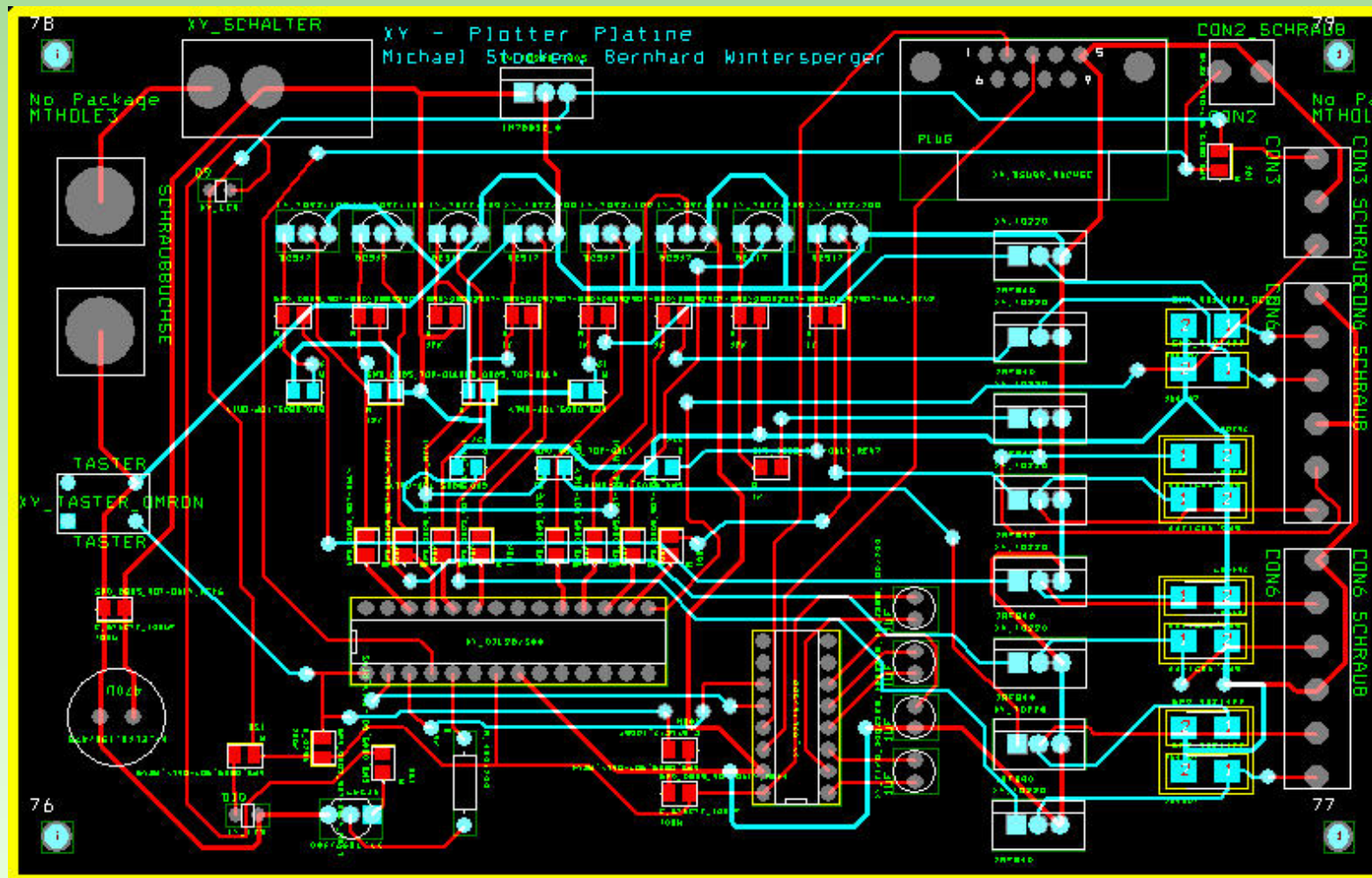
Werkstätte

Schalttransistoren





Werkstätte Layout





Werkstätte

µController Software

Anforderungen

- RS232 Kommunikation
- Ansteuerung der Schrittmotoren

Einteilung

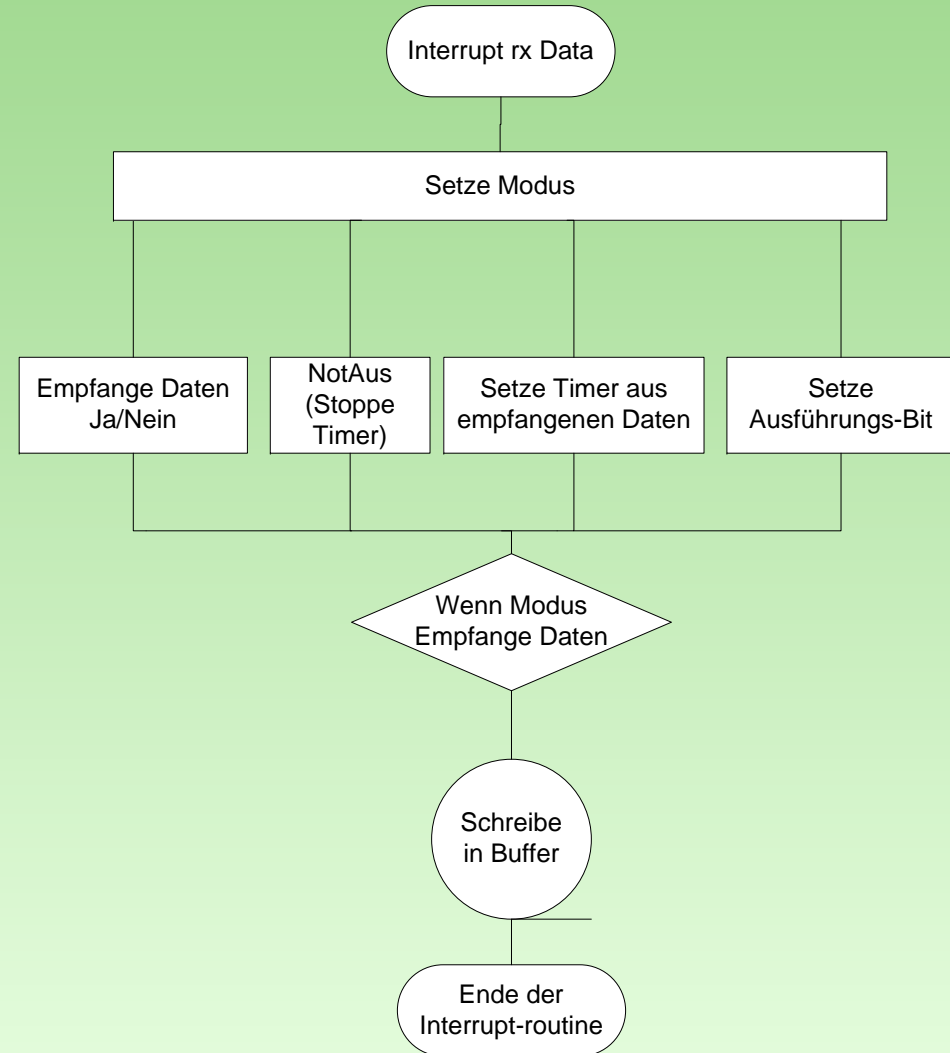
- RX Interrupt
- Timer Interrupt
- Hauptprogramm



RX Interrupt

Anforderungen

- Empfang der Positionsdaten
- Speicherung der Positionsdaten
- Setzen des Timers
- Not-Aus



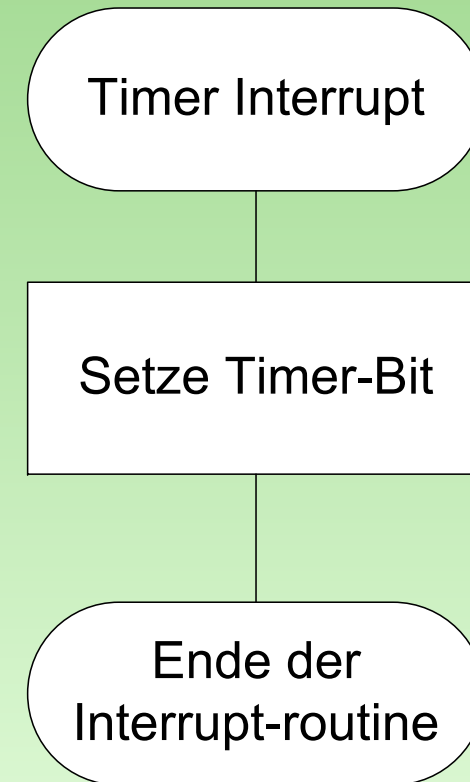


Timer Interrupt

Anforderungen

- Setzen des Timer-Bits

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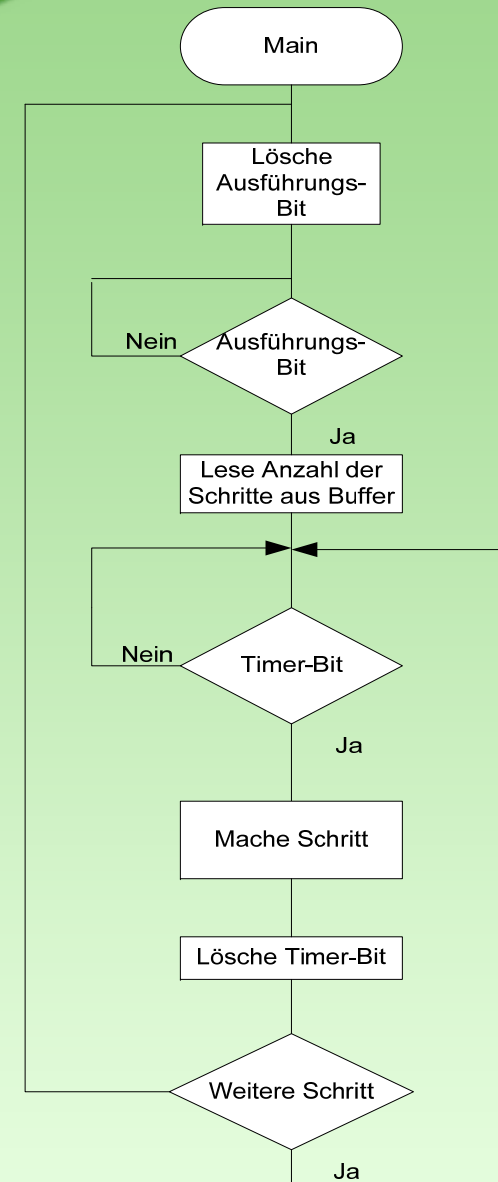




Hauptprogramm

Aufgaben

- Auslesen der Positionsdaten
- Ansteuerung der Motoren

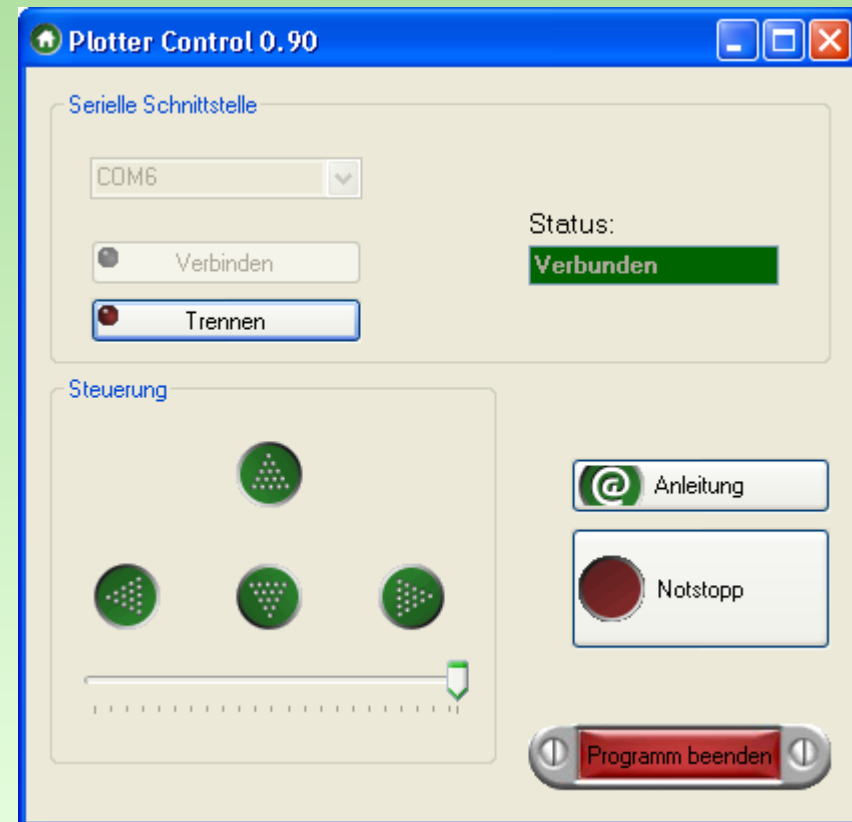
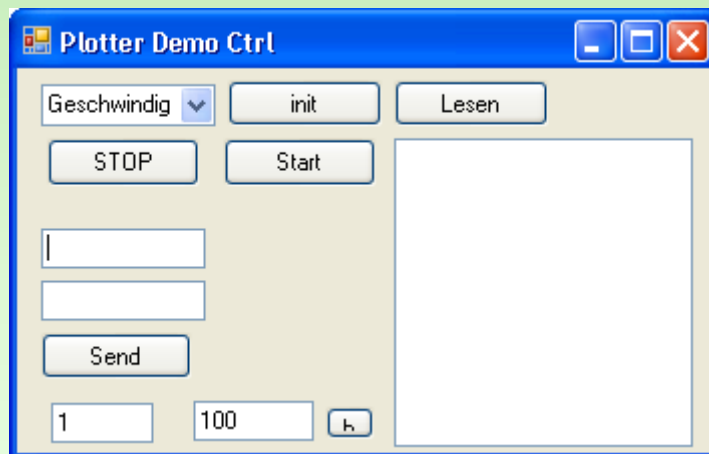




Werkstätte

PC Software

- C#
- RS232 Klasse
 - Write()
 - Open()
 - writePosition()





Werkstätte

**Vielen Dank für ihre
Aufmerksamkeit!**