



Title		
Size	Number	Revision
A2		
Date:	9/08/2016	Sheet of
File:	C:\Users\SMF\Documents\MicrocontrollerBoard\20160808\Prints_SchDoc	23

Great inspiration comes suddenly if you work long enough

Microcontrollers are the basis for many new products

Being creative is the key to success..
Perseverance is the key to even more

ETRO/LAMI
VUB TECHNOLOGY
SME - Prof. KUIJK
By Robin Deleener
Version 1.0

Board Nr.

For students wanting more

Don't blame the board... Blame the assistant

Any Questions? -> RTFM

ATmega328P

Targets of this Exercise:

- Assembler Programming
- Addressing Methods
- Use of Timers/Counters
- Use of Interrupts
- Use of ADC/DAC
- Finding own mistakes
- Watchdog Principle
- Serial Port Usage
- Low level programming
- Use of PWM
- Use of Flash Memory
- Multiplexing In/Outputs
- Doing real engineering

PB1
HIGH
PB0
LOW

Keep calm and keep searching

Don't blame the board... Blame the assistant

Comment	Description	Designator	Footprint	LibRef	Quantity
100nF	SMD Capacitor	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12	CAPC0603(1608)_M	Capacitor	12
10uF	SMD Capacitor_Polar	C13, C15	CAPC1210(3225)_M_Polar	Capacitor_Polar	2
330nF	SMD Capacitor	C14	CAPC0603(1608)_M	Capacitor	1
470uF	SMD Capacitor_Polar	C16	CAPC1210(3225)_M_Polar	Capacitor_Polar	1
330uF	SMD Capacitor_Polar	C17, C18	CAPC_Gcase	Capacitor_Polar	2
LED	LED with various footprints	LED1, LED2, LED3	LEDC0603(1608)	LED	3
Mounting Hole	Mounting hole in different footprints	MH1, MH2, MH3, MH4, MH5	Hole_Mounting	Hole_Mounting	5
HDR1x8	Header, 8-Pin	P1, P3	HDR1X8_SMD	HDR1x8	2
HDR1x6	Header, 6-Pin	P2	HDR1X6_SMD	HDR1x6	1
HDR1x10	Header, 10-Pin	P4	HDR1X10_SMD	HDR1x10	1
HDR2x14	Header, 14-Pin, Dual row	P7	HDR2X14_Female_Right Angle	HDR2x14	1
4.7k	SMD Resistor	R1, R2	RESC0603(1608)_M	Resistor	2
220	SMD Resistor	R7, R8, R14	RESC0603(1608)_M	Resistor	3
10k	SMD Resistor	R9, R10, R12, R13	RESC0603(1608)_M	Resistor	4
33k	SMD Resistor	R11	RESC0603(1608)_M	Resistor	1
2k9	SMD Resistor	R15	RESC0603(1608)_M	Resistor	1
3k9	SMD Resistor	R16, R17, R18, R19, R20, R21, R22, R23, R24, R25	RESC0603(1608)_M	Resistor	10
Switch_Tactile	Switch Tactile in different footprints	SW1, SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9, SW10, SW11, SW12, SW13, SW14, SW15, SW16	Switch_tactile_SMD_12x12	Switch_Tactile	16
Switch_Rocker	Switch Rocker in different footprints	SW17	Switch_Rocker_NKK_GW12_series	Switch_Rocker	1
Switch_DIP_2	Switch DIP in different footprints,2 leads	SW18	Switch_Dip_2	Switch_DIP_2	1
ZXM61P03F	30V P-CHANNEL ENHANCEMENT MODE MOSFET	T1, T2, T3, T4, T5, T6, T7	SOT23-3ld_M_0.95PITCH_3x1.4 BODY	ZXM61P03F	7
DOTmatrix_5x7_CC	5x7 DOT matrix, Column Cathode	U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, U12, U13, U14, U15, U16	DOTmatrix_5x7_0.7"	DOTmatrix_5x7_CC	16
STP08DP05	8-Bit Serial-Input Shift Register with Latched 3-State Outputs and current reference	U17, U18, U19, U20, U21, U22, U23, U24, U25, U26, U27	TSSOP-16ld_M_0.65Pitch_5X4.4 body	STP08DP05	11
Joystick	Joystick, 2 axis, select	U28	Joystick_ALPS_RKJXK122400Y	JoyStick_2axis_select	1
AD5694RARUZ	Quad 12-Bit nanoDAC+ with I2C Interface and 2 ppm/degC On-Chip Reference, -40 to +105 degC, RU-16, Pb-Free, Tube	U29	RU-16_N	CMP-0318-01679-2	1
Buzzer	Buzzer in different footprints	U30	Buzzer, IMO 41.T70P015	Buzzer	1