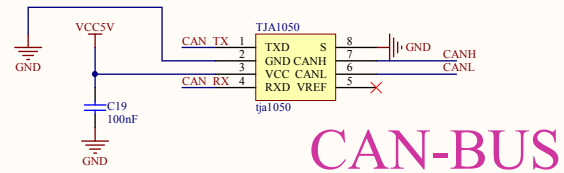
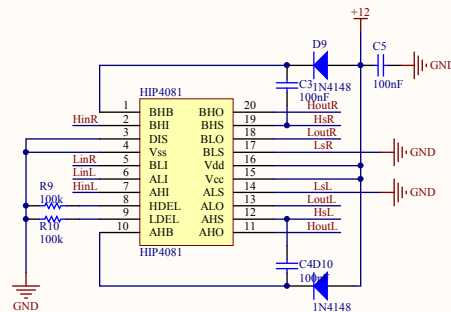
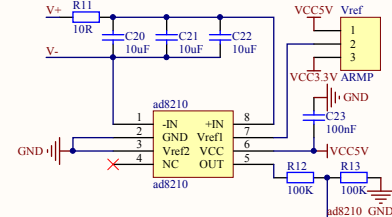


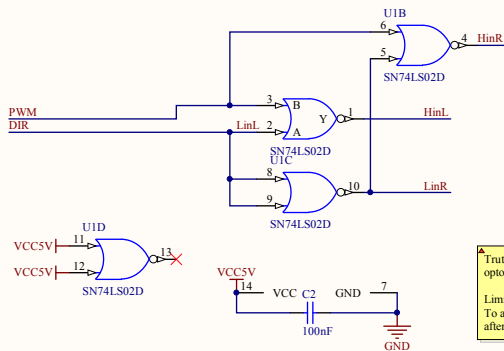
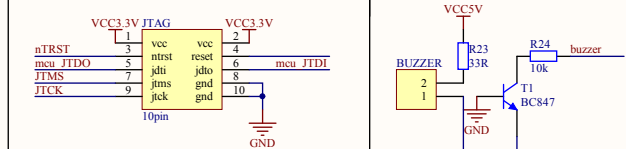
MOTOR DRIVER



CAN-BUS



CURRENT SENSOR



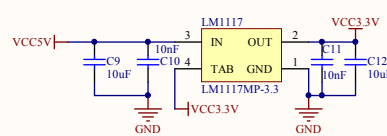
Inverted Truth Table of H-Bridge Input

DIR	PWM	HinL	HinR	LinL	LinR
1	1	0	0	1	0
1	0	0	1	1	0
0	1	0	0	0	1
0	0	1	0	0	1

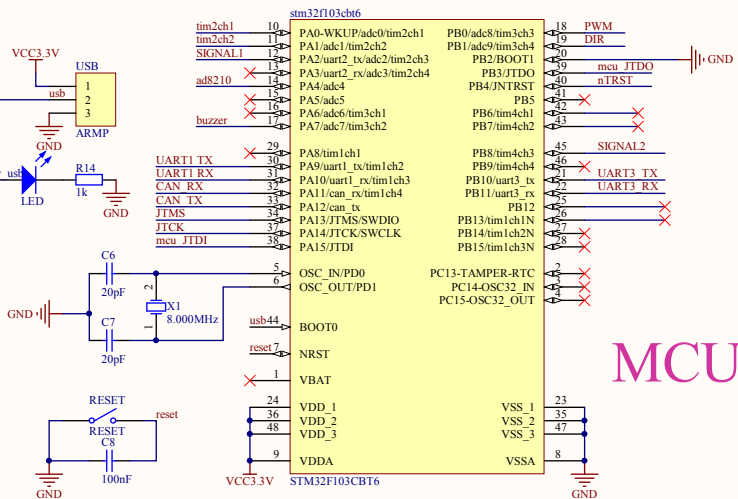
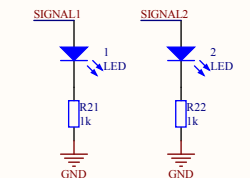
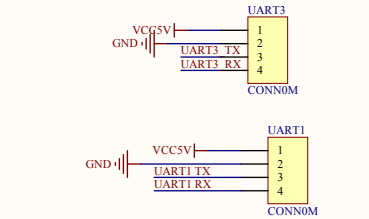
Motor Control v4.1 With AD8210 Designed by GAO Zihou 2013/07

Truth table input inverted for addition of optocouplers, caution when developing
Limited hardware braking supported
To apply hardware braking, invert DIR after asserting PWM

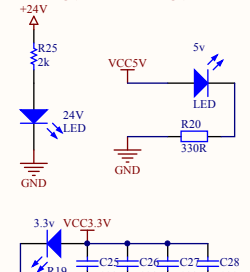
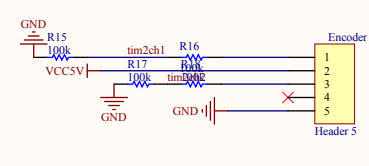
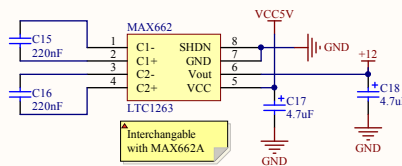
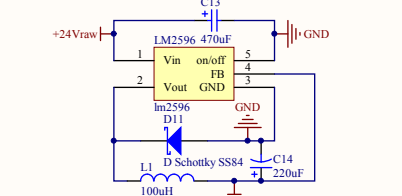
REGULATOR



Port & Connector



MCU



OTHERS

Title	Size	Number	Revision
GND	A3	CONN0M	
Date: 2013-07-11			Sheet of
File: C:\Users\PCB41\SchDoc			Drawn By:

Comment	Description	Designator	Footprint	LibRef	Quantity
LED	Typical RED GaAs LED	1, 2, 3, 3v, 5v, 24V, v_usb	SMD_LED	LED1	6
ad8210		ad8210	ad8210	Component_1	1
Buzzer	Header, 2-Pin	BUZZER	BUZZER	Header 2	1
3n3F	Capacitor (Semiconductor SIM Model)	C1	CC3225-1210	Cap Semi	1
100nF	Capacitor (Semiconductor SIM Model)	C2, C3, C4, C5, C8, C19, C23, C25, C26, C27, C28	CC2012-0805	Cap Semi	11
20pF	Capacitor (Semiconductor SIM Model)	C6, C7	CC2012-0805	Cap Semi	2
10uF	Capacitor (Semiconductor SIM Model)	C9, C12, C20, C21, C22	CC3225-1210	Cap Semi	5
10nF	Capacitor (Semiconductor SIM Model)	C10, C11	CC2012-0805	Cap Semi	2
470uF	Polarized Capacitor (Surface Mount)	C13, C24	470UF/50V	Cap Pol3	2
SMD 470uF	Polarized Capacitor (Axial)	C14	SV-G	Cap Pol2	1
220nF	Capacitor (Semiconductor SIM Model)	C15, C16	CC2012-0805	Cap Semi	2
4.7uF	Polarized Capacitor (Surface Mount)	C17, C18	CR3216-1206	Cap Pol3	2
CONN0M	Header, 4-Pin	CAN1, CAN2, UART1, UART3	LOCKEDHDR-4W	Header 4	4
1N4148	High Conductance Fast Diode	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10	MURS120	Diode 1N4148	10
D Schottky SS84	Schottky Diode	D11	sch_diode	D Schottky	1
Header 5	Header, 5-Pin	Encoder	lockedHDR-5W	Header 5	1
20A Fuse	Fuse	F1	FUSE SOCKET	Fuse 1	1
HIP4081		HIP4081	PCBComponent_1	Component_1	1
10pin		JTAG	10_pin_itag	Component_1	1
Inductor	Inductor	L1	MSS1260	Inductor	1
LM1117MP-3.3	800mA Low-Dropout Linear Regulator	LM1117	MP04A_N	LM1117MP-3.3	1
lm2596		LM2596	lm2596	Component_1	1
LTC1263	5V to 12V	MAX662	SO-8	MAX662A	1
POWER	Connector	Power	LOCKEDPWRHDR	CON2	1
IRLR3705Z	HEXFET N-Channel Power MOSFET	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8	TO-252AA	IRLR3705	8
33R	Resistor, Semiconductor Resistor	R1, R2, R3, R4, R5, R6, R7, R8, R23	CR2012-0805	Res2, Res Semi	9
100k	Resistor, Semiconductor Resistor	R9, R10, R12, R13, R15, R16, R17, R18	CR2012-0805	Res2, Res Semi	8
10R	Resistor	R11	CR2012-0805	Res2	1
1k	Resistor	R14, R21, R22	CR2012-0805	Res2	3
330R	Resistor	R19, R20	CR2012-0805	Res2	2
10k	Resistor	R24	CR2012-0805	Res2	1
2k	Semiconductor Resistor	R25	CR2012-0805	Res Semi	1
0.007R	Resistor	R26	CR6332-2512	Res2	1
RESET	Single-Pole, Single-Throw Switch	RESET	PUSH SWITCH	SW-SPST	1
STM32F103CBT6	STM32 ARM-based 32-bit MCU with 128 Kbytes Flash, 48-pin LQFP, Industrial Temperature	stm32f103cbt6	LQFP48_N	STM32F103CBT6	1
BC847	NPN Bipolar Transistor	T1	SO-G3/C2.5	QNPN	1
tja1050		TJA1050	ad8210	tja1050	1
SN74LS02D	Quadruple 2-Input Positive-NOR Gate	U1	D014	SN74LS02D	1
ARMP	Header, 3-Pin	USB, Vref	HDR1X3	Header3	2
8.000MHz	Crystal Oscillator	X1	BCY-W2/E4.7	XTAL	1