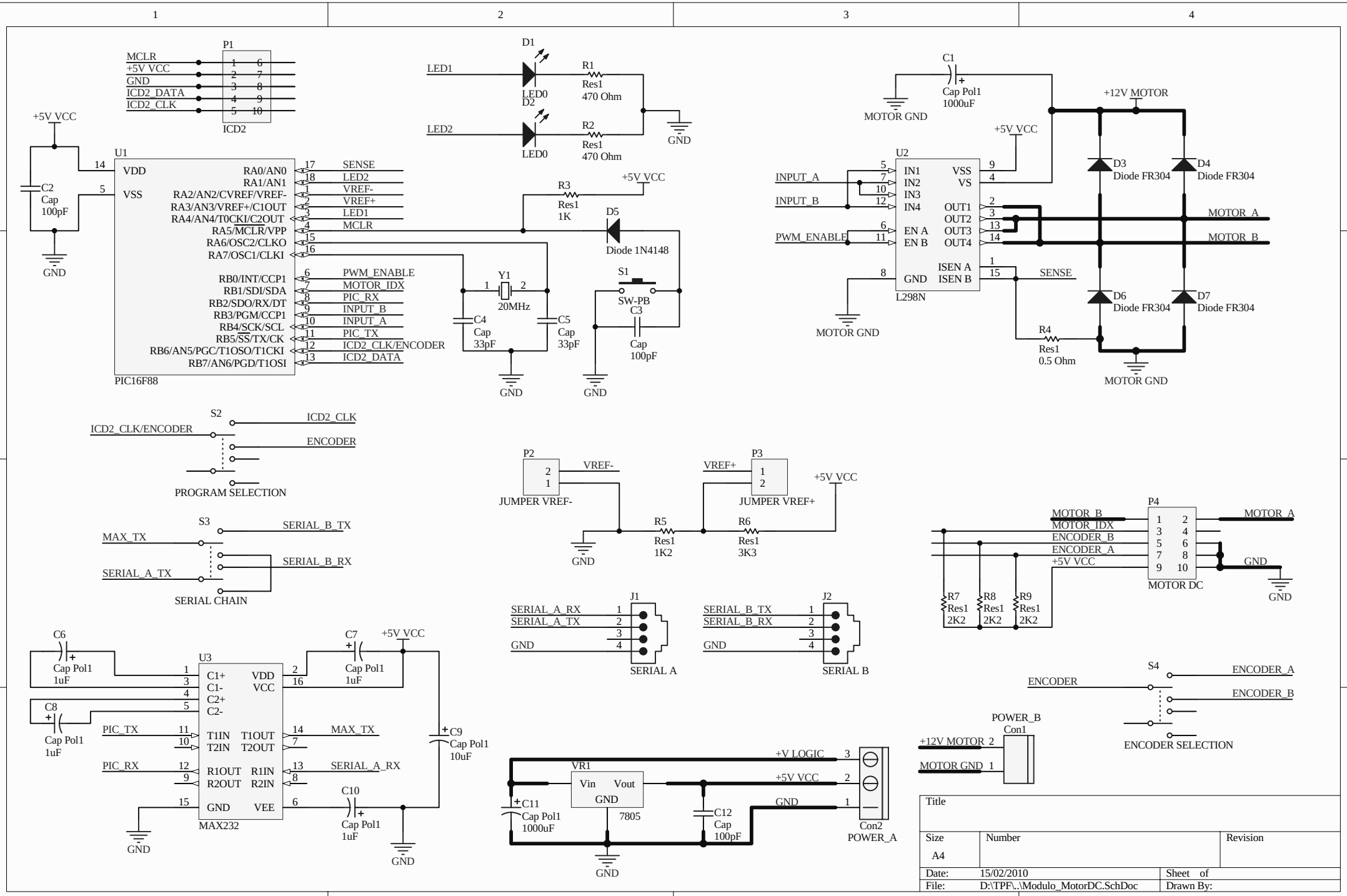
P1
MCLR
+5V VCC
GND
ICD2_DATA
ICD2_CLK
ICD2
D1
LED1
LED0
R1
Res1
470 Ohm
D2
LED2
LED0
R2
Res1
470 Ohm
GND
C1
Cap Pol1
1000uF
MOTOR GND
+12V MOTOR
+5V VCC
U1
VDD
VSS
RA0/AN0
RA1/AN1
RA2/AN2/CVREF/VREF-
RA3/AN3/VREF+/C1OUT
RA4/AN4/T0CKI/C2OUT
RA5/MCLR/VPP
RA6/OSC2/CLKO
RA7/OSC1/CLKI
RB0/INT/CCP1
RB1/SDI/SDA
RB2/SDO/RX/DT
RB3/PGM/CCP1
RB4/SCK/SCL
RB5/SS/TX/CK
RB6/AN5/PGC/T1OSO/T1CKI
RB7/AN6/PGD/T1OSI
SENSE
LED2
VREF-
VREF+
LED1
MCLR
PWM_ENABLE
MOTOR_IDX
PIC_RX
INPUT_B
INPUT_A
PIC_TX
ICD2_CLK/ENCODER
ICD2_DATA
PIC16F88
C2
Cap
100pF
R3
Res1
1K
D5
Diode 1N4148
Y1
20MHz
C4
Cap
33pF
C5
Cap
33pF
S1
SW-PB
C3
Cap
100pF
U2
IN1
IN2
IN3
IN4
EN A
EN B
GND
VSS
VS
OUT1
OUT2
OUT3
OUT4
ISEN A
ISEN B
L298N
INPUT_A
INPUT_B
PWM_ENABLE
SENSE
MOTOR_A
MOTOR_B
D3
Diode FR304
D4
Diode FR304
D6
Diode FR304
D7
Diode FR304
R4
Res1
0.5 Ohm
S2
ICD2_CLK/ENCODER
ICD2_CLK
ENCODER
PROGRAM SELECTION
P2
JUMPER VREF-
VREF-
P3
JUMPER VREF+
VREF+
R5
Res1
1K2
R6
Res1
3K3
S3
MAX_TX
SERIAL_A_TX
SERIAL_B_TX
SERIAL_B_RX
SERIAL CHAIN
P4
MOTOR_B
MOTOR_IDX
ENCODER_B
ENCODER_A
+5V VCC
MOTOR_A
GND
MOTOR DC
R7
Res1
2K2
R8
Res1
2K2
R9
Res1
2K2
J1
SERIAL_A_RX
SERIAL_A_TX
GND
SERIAL A
J2
SERIAL_B_TX
SERIAL_B_RX
GND
SERIAL B
C6
Cap Pol1
1uF
C7
Cap Pol1
1uF
C8
Cap Pol1
1uF
U3
C1+
C1-
C2+
C2-
VDD
VCC
T1IN
T2IN
T1OUT
T2OUT
R1OUT
R2OUT
R1IN
R2IN
GND
VEE
MAX232
PIC_TX
PIC_RX
MAX_TX
SERIAL_A_RX
C9
Cap Pol1
10uF
C10
Cap Pol1
1uF
S4
ENCODER
ENCODER_A
ENCODER_B
ENCODER SELECTION
POWER_B
Con1
+12V MOTOR
MOTOR GND
VR1
Vin
Vout
GND
7805
C11
Cap Pol1
1000uF
C12
Cap
100pF
+V LOGIC
+5V VCC
GND
Con2
POWER_A
Title
Size
A4
Number
Revision
Date: 15/02/2010
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Drawn By: