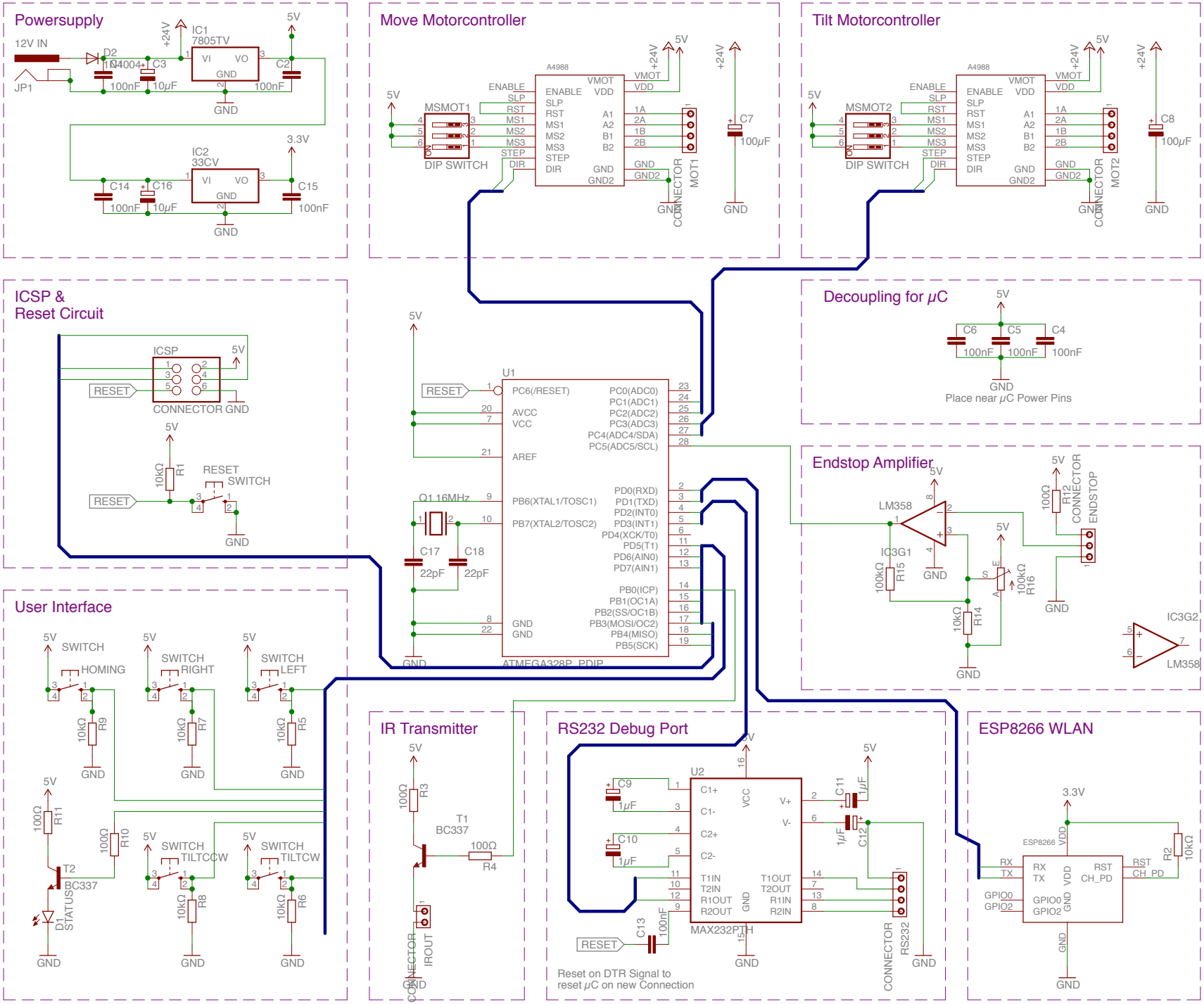
Powersupply
12V IN
JP1
D2
1N4004
C3
100nF
10µF
+24V
IC1
7805TV
VI
VO
GND
C2
100nF
5V
GND
IC2
33CV
C14
C16
C15
3.3V
Move Motorcontroller
A4988
MSMOT1
DIP SWITCH
ENABLE
SLP
RST
MS1
MS2
MS3
STEP
DIR
VMOT
VDD
A1
A2
B1
B2
1A
2A
1B
2B
GND2
CONNECTOR MOT1
C7
100µF
Tilt Motorcontroller
MSMOT2
CONNECTOR MOT2
C8
ICSP &
Reset Circuit
ICSP
CONNECTOR
RESET
R1
10kΩ
RESET SWITCH
Decoupling for µC
C6
C5
C4
Place near µC Power Pins
U1
PC6(/RESET)
AVCC
VCC
AREF
PC0(ADC0)
PC1(ADC1)
PC2(ADC2)
PC3(ADC3)
PC4(ADC4/SDA)
PC5(ADC5/SCL)
PB6(XTAL1/TOSC1)
PB7(XTAL2/TOSC2)
PD0(RXD)
PD1(TXD)
PD2(INT0)
PD3(INT1)
PD4(XCK/T0)
PD5(T1)
PD6(AIN0)
PD7(AIN1)
PB0(ICP)
PB1(OC1A)
PB2(SS/OC1B)
PB3(MOSI/OC2)
PB4(MISO)
PB5(SCK)
ATMEGA328P_PDIP
Q1 16MHz
C17
C18
22pF
Endstop Amplifier
LM358
IC3G1
R15
100kΩ
R14
10kΩ
R16
100kΩ
R12
100Ω
CONNECTOR ENDSTOP
IC3G2
User Interface
SWITCH
HOMING
SWITCH
RIGHT
SWITCH
LEFT
R9
R7
R5
R11
100Ω
R10
T2
BC337
D1
STATUS
SWITCH
TILTCCW
SWITCH
TILTCW
R8
R6
IR Transmitter
R3
T1
BC337
R4
IROUT
RS232 Debug Port
U2
C1+
C1-
C2+
C2-
VCC
V+
V-
T1IN
T2IN
R1OUT
R2OUT
T1OUT
T2OUT
R1IN
R2IN
MAX232PTH
C9
C10
C11
C12
C13
100nF
Reset on DTR Signal to
reset µC on new Connection
CONNECTOR RS232
ESP8266 WLAN
ESP8266
RX
TX
GPIO0
GPIO2
RST
CH_PD
R2
10kΩ