Encoder (Slave)

+3.3V
+3.3V
R5 10k

MOSI
MISO
CLK
CSn

U4 AS5048A
MOSI MISO CLK CSn VDD3V VDD5V PWM
TEST TEST TEST TEST TEST TEST
GND

MAX485E U1
VCC
CS_B 7 B RO 1 CSn
RE 2
CS_A 6 A DE 3
DI 4
GND 5
R1 10k
R2 10k
+3.3V
C? 100nF
GND
GND

J1 8P8C_Shielded
8 CS_A
7 CS_B
6 MISO_A
5 MISO_B
4 CLK_A
3 CLK_B
2 +3.3V
1 GND
SH
GND

U2 MAX485E
VCC
MISO_B 7 B RO 1
RE 2
MISO_A 6 A DE 3
DI 4 MISO
GND 5
R3 10k
+3.3V
C? 100nF
GND
GND

+3.3V
J? debug
1 MOSI
CSn 2 5 MISO
3 4 CLK
GND

U3 MAX485E
VCC
CLK_B 7 B RO 1 CLK
RE 2
CLK_A 6 A DE 3
DI 4
GND 5
R6 10k
+3.3V
C? 100nF
GND
GND

ODrive (master)

J? Motor Encoder 0
CS_A_1 8
CS_B_1 7
MISO_A_1 6
MISO_B_1 5
CLK_A_1 4
CLK_B_1 3
2
1
SH

U? MAX485E
VCC
MISO_A_1 7 B RO 1 MISO_MASTER
R? 120 RE 2 CS_1
DE 3
MISO_A_2 6 A DI 4
GND 5
GNDD
R? R
GNDD
+3.3V
C? 100nF
GND

J? Gbx Encoder 0
CS_A_2 8
CS_B_2 7
MISO_A_2 6
MISO_B_2 5
CLK_A_2 4
CLK_B_2 3
2
1
SH

U? MAX485E
VCC
MISO_A_2 7 B RO 1 MISO_MASTER
R? 120 RE 2 CS_2
DE 3
MISO_B_2 6 A DI 4
GND 5
GNDD
R? R
+3.3V
C? 100nF
GND

J? Motor Encoder 1
CS_A_3 8
CS_B_3 7
MISO_A_3 6
MISO_B_3 5
CLK_A_3 4
CLK_B_3 3
2
1
SH

U? MAX485E
VCC
MISO_A_3 7 B RO 1 MISO_MASTER
R? 120 RE 2 CS_3
DE 3
MISO_B_3 6 A DI 4
GND 5
GNDD
R? R
+3.3V
C? 100nF
GND

J? Gbx Encoder 1
CS_A_4 8
CS_B_4 7
MISO_A_4 6
MISO_B_4 5
CLK_A_4 4
CLK_B_4 3
2
1
SH

U? MAX485E
VCC
MISO_A_4 7 B RO 1 MISO_MASTER
R? 120 RE 2 CS_4
DE 3
MISO_B_4 6 A DI 4
GND 5
GNDD
R? R
+3.3V
C? 100nF
GND

U? LTC1688
CS_A_1 2 DO1A DI1 1 CS_1
CS_B_1 3 DO1B
CS_A_2 6 DO2A DI2 7 CS_2
CS_B_2 5 DO2B
EN 4
EN 12
CS_A_3 10 DO3A DI3 9 CS_3
CS_B_3 11 DO3B
CS_A_4 14 DO4A DI4 15 CS_4
CS_B_4 13 DO4B
VDD GND
R? 10k
+3.3V
C? 100nF
GND
GND

U? LTC1688
CLK_A_1 2 DO1A DI1 1 CLK_MASTER
CLK_B_1 3 DO1B
CLK_A_2 6 DO2A DI2 7 CLK_MASTER
CLK_B_2 5 DO2B
EN 4
EN 12
CLK_A_3 10 DO3A DI3 9 CLK_MASTER
CLK_B_3 11 DO3B
CLK_A_4 14 DO4A DI4 15 CLK_MASTER
CLK_B_4 13 DO4B
VDD GND
R? 10k
+3.3V
C? 100nF
GND
GND

J? Conn_01x10
1
2
3
4
5
6
7
8
9
10