

# CapStp11 STEPPER MOTOR INTERFACE CARD MANUAL

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## Warning Leds

**TEST LED:** Test Led flashes when the motor direction changes. When ENABLE input shorted to GND (active low) or the LIMIT SWITCH activated,, TEST LED is continuously ON. (Limit Switch is direction sensitive). Normally TEST LED is OFF.

**STEP LED:** During Active High (Common -) driving mode, brightness increase with STEP frequency. STP Jumper shown as below. During Active Low (Common +) driving mode, brightness decrease with STEP frequency (Jumper indicated on page 2)

## Jumper Settings

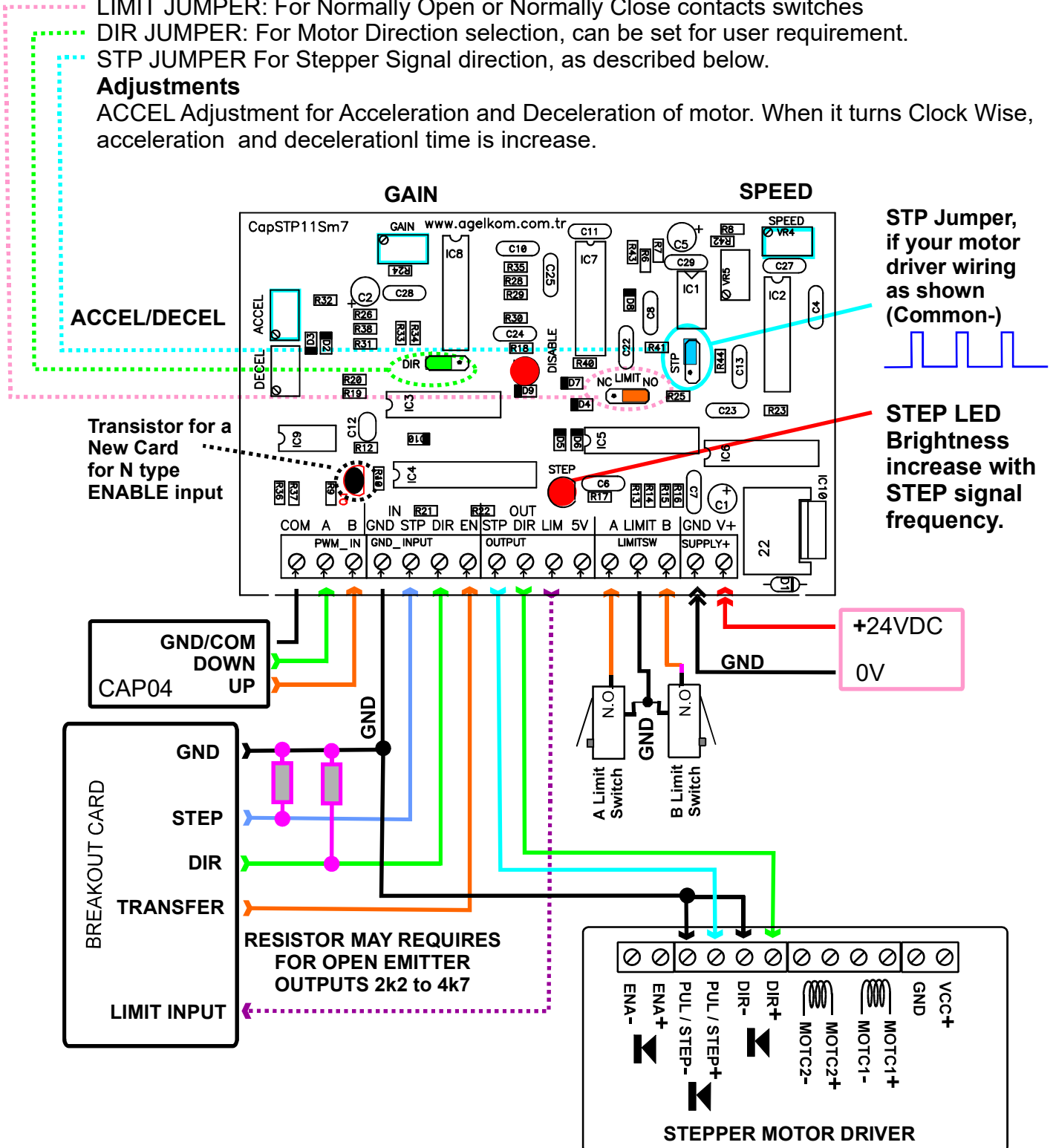
**LIMIT JUMPER:** For Normally Open or Normally Close contacts switches

**DIR JUMPER:** For Motor Direction selection, can be set for user requirement.

**STP JUMPER** For Stepper Signal direction, as described below.

## Adjustments

**ACCEL Adjustment** for Acceleration and Deceleration of motor. When it turns Clock Wise, acceleration and deceleration time is increase.



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**GAIN Adjustment:** Turn Clock Wise, Gain is increase. For maximum dynamic range, apply your max. PWM% signal and adjust just beginning slow down of motor speed.  
**SPEED Adjustment:** Turn Clock Wise, Speed is increase.

## Inputs

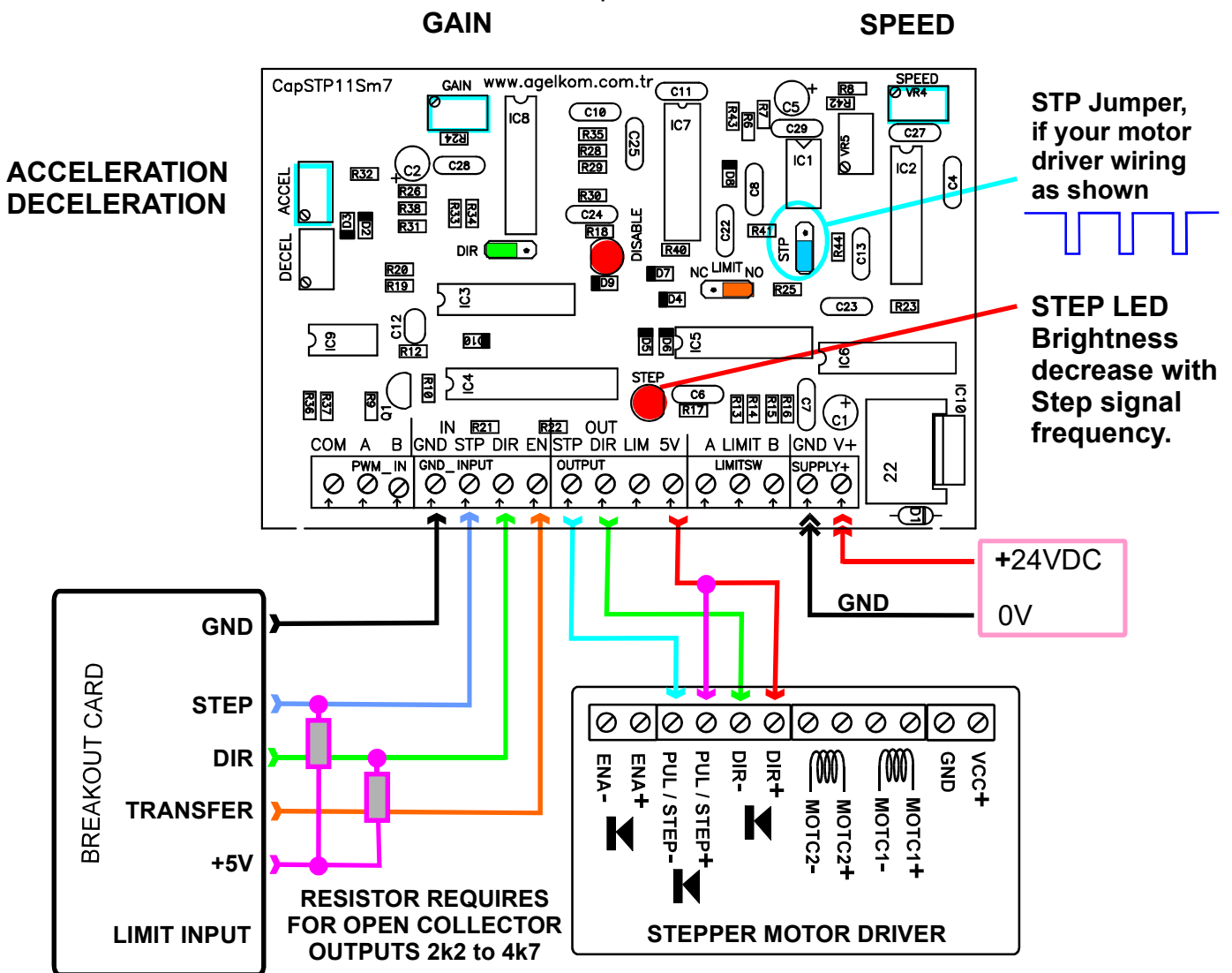
**PWM Inputs:** 5V and optically isolated (for 500Hz)  
**Step(STP) and Direction(DIR) Inputs:** 5V Active High.  
**Enable (EN) Input:** Active Low, When this pin pull to 0V The Step and Direction Signals are connected to your Breakout Card's STEP and DIR outputs. Operate as Transfer Switch  
**LIMIT SWITCH Inputs:** "NO" Normally Open or "NC" Normally Close.  
 Can be configured by jumper. Direction Sensitive

\*STP,DIR, and EN inputs not needed if you want to control your motor with Cap-STP11 only.

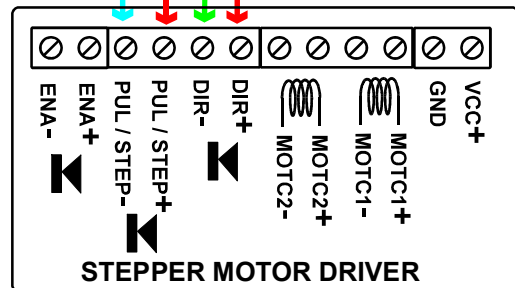
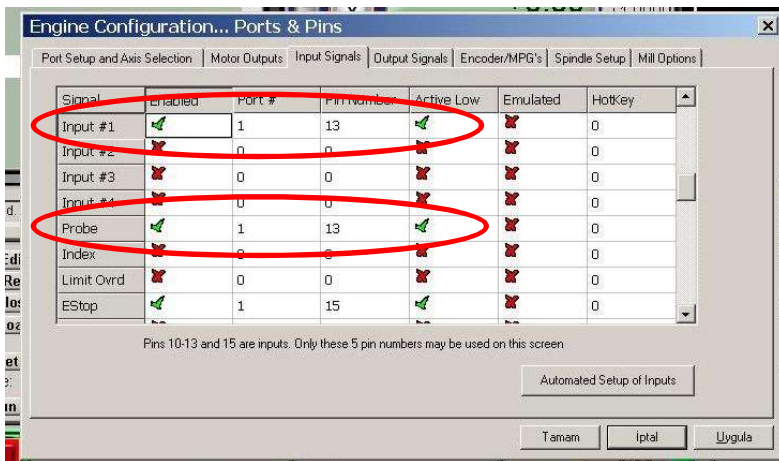
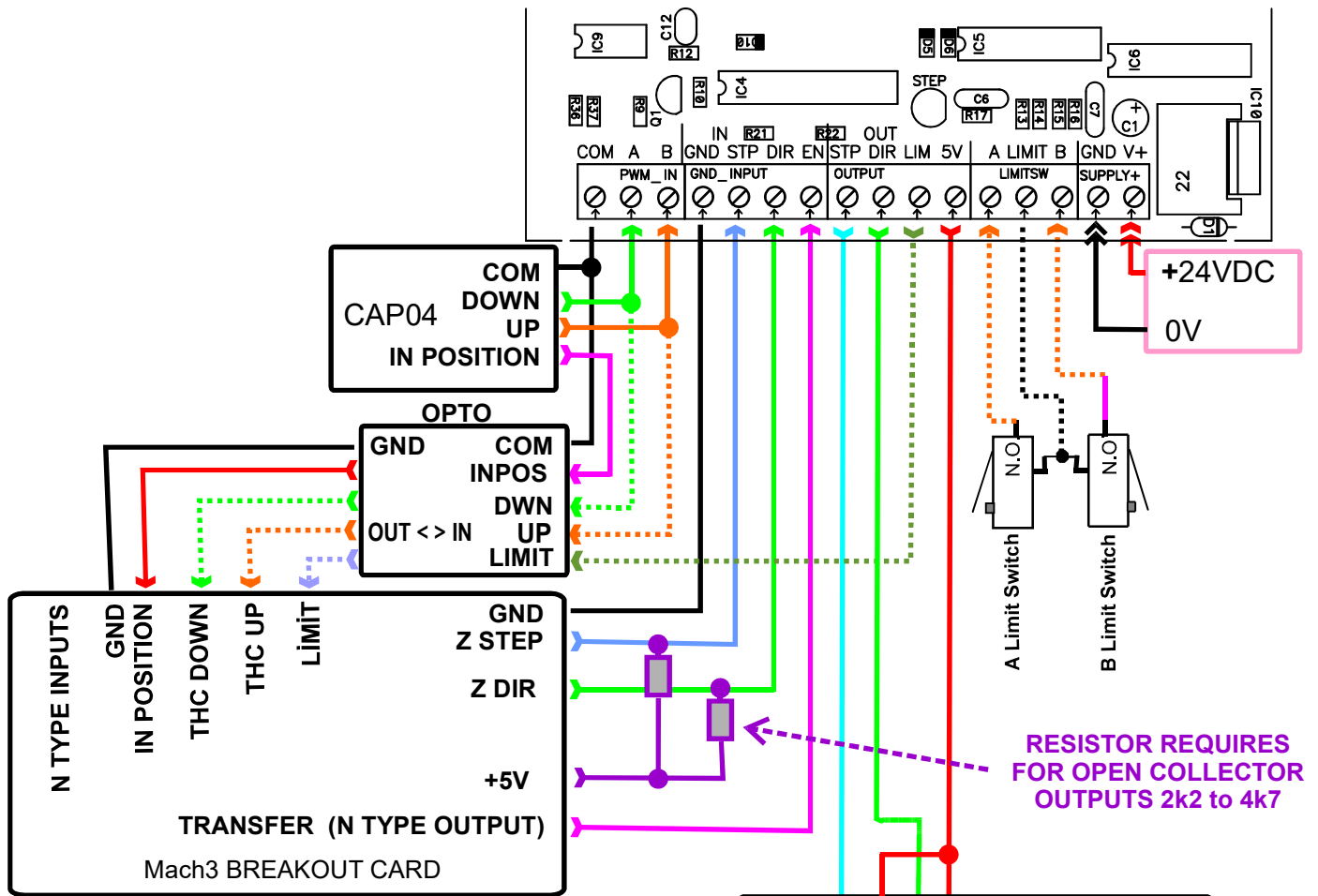
## Outputs

**Step(STP) and Direction(DIR) Outputs:** At 5V level. Active Low or Active High configuration with jumpers setting. T\_on time: 4.5uS, Frequency : 10us-190us.  
**LIMIT Output:** Active High (5V) when the "limit" occur

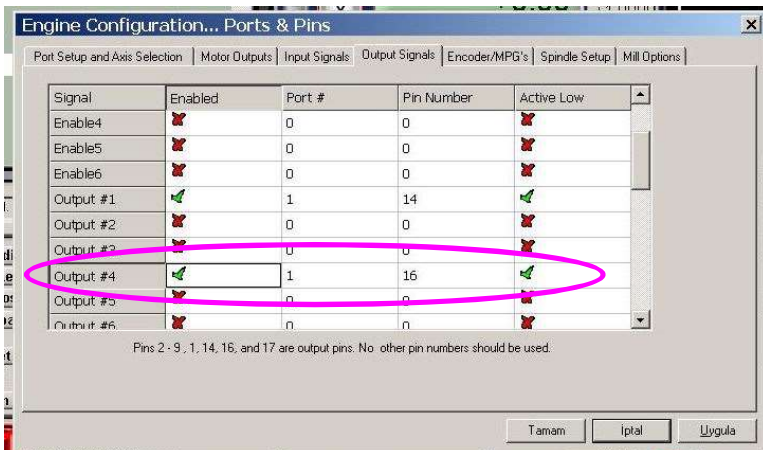
\* Do not exceed more than 50mA at 5V output.



# CapStp11 STEPPER MOTOR INTERFACE CARD MACH3 BREAKOUT BOARD WIRING

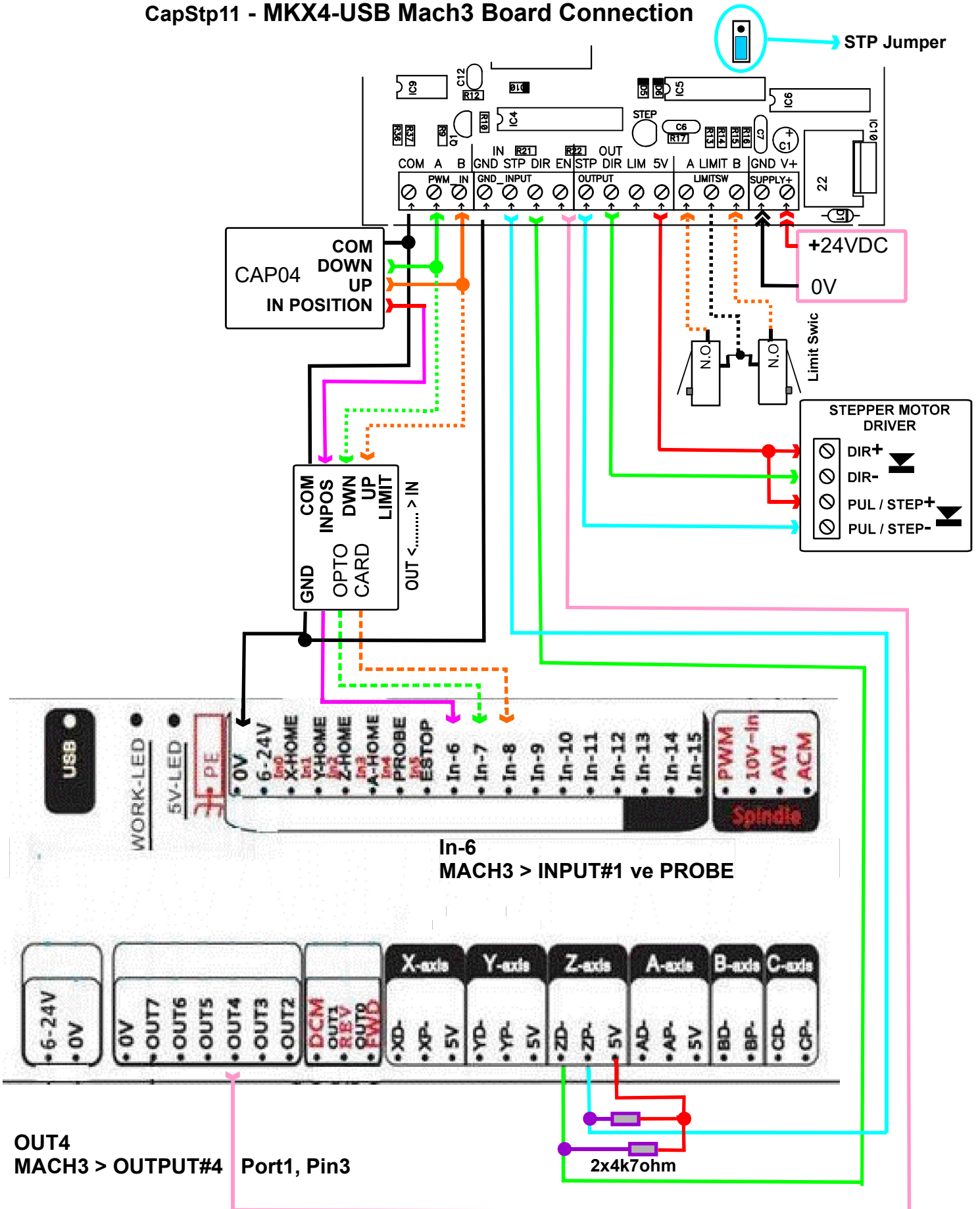


<< INPUT CONFIGURATION FOR IN POSITION



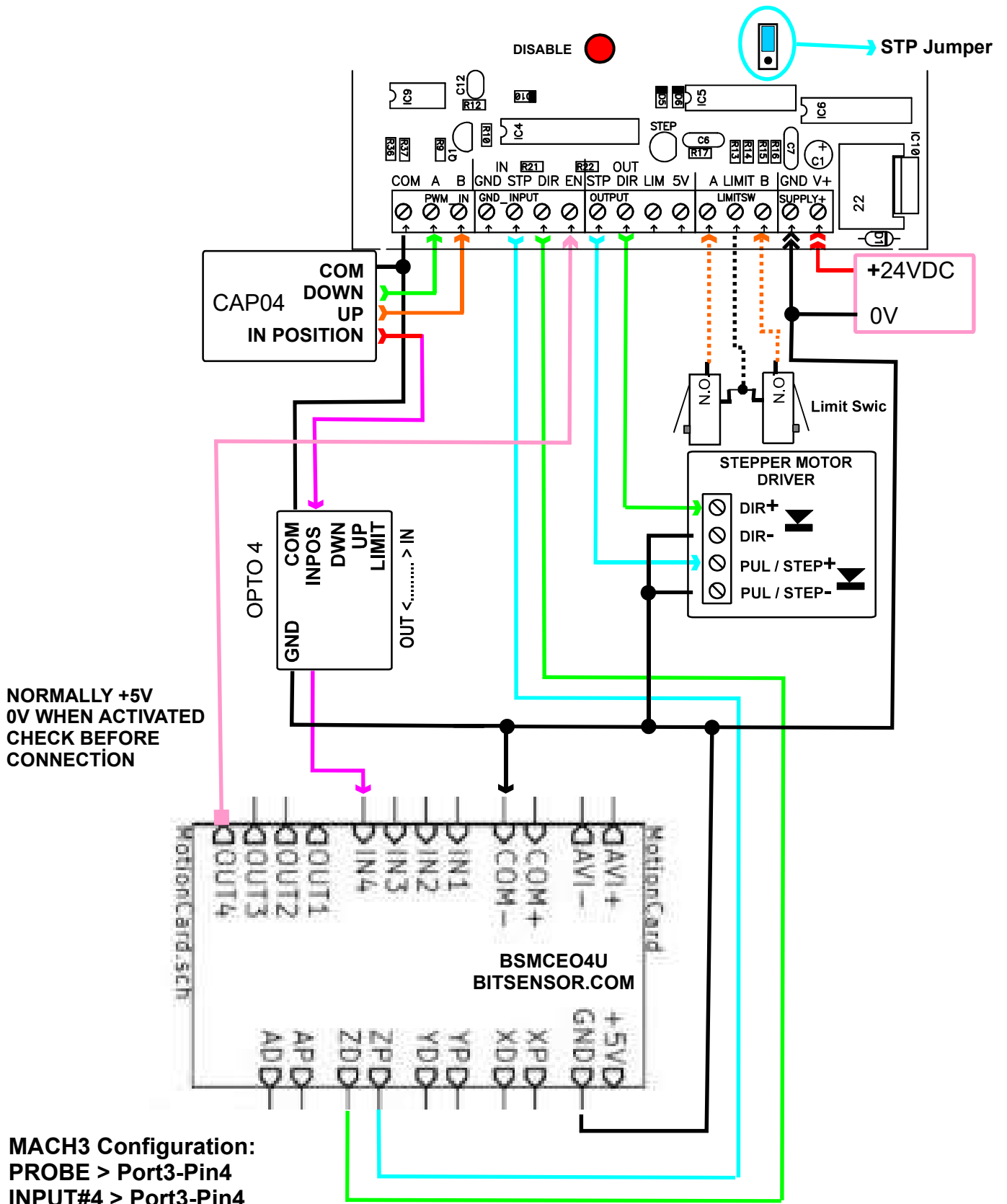
<< TRANSFER SWITCH CONFIGURATION FOR Z AXIS

# CapStp11 - MKX4-USB Mach3 Board Connection



Output #3		1	2	
Output #4		1	3	
Output #5		1	0	

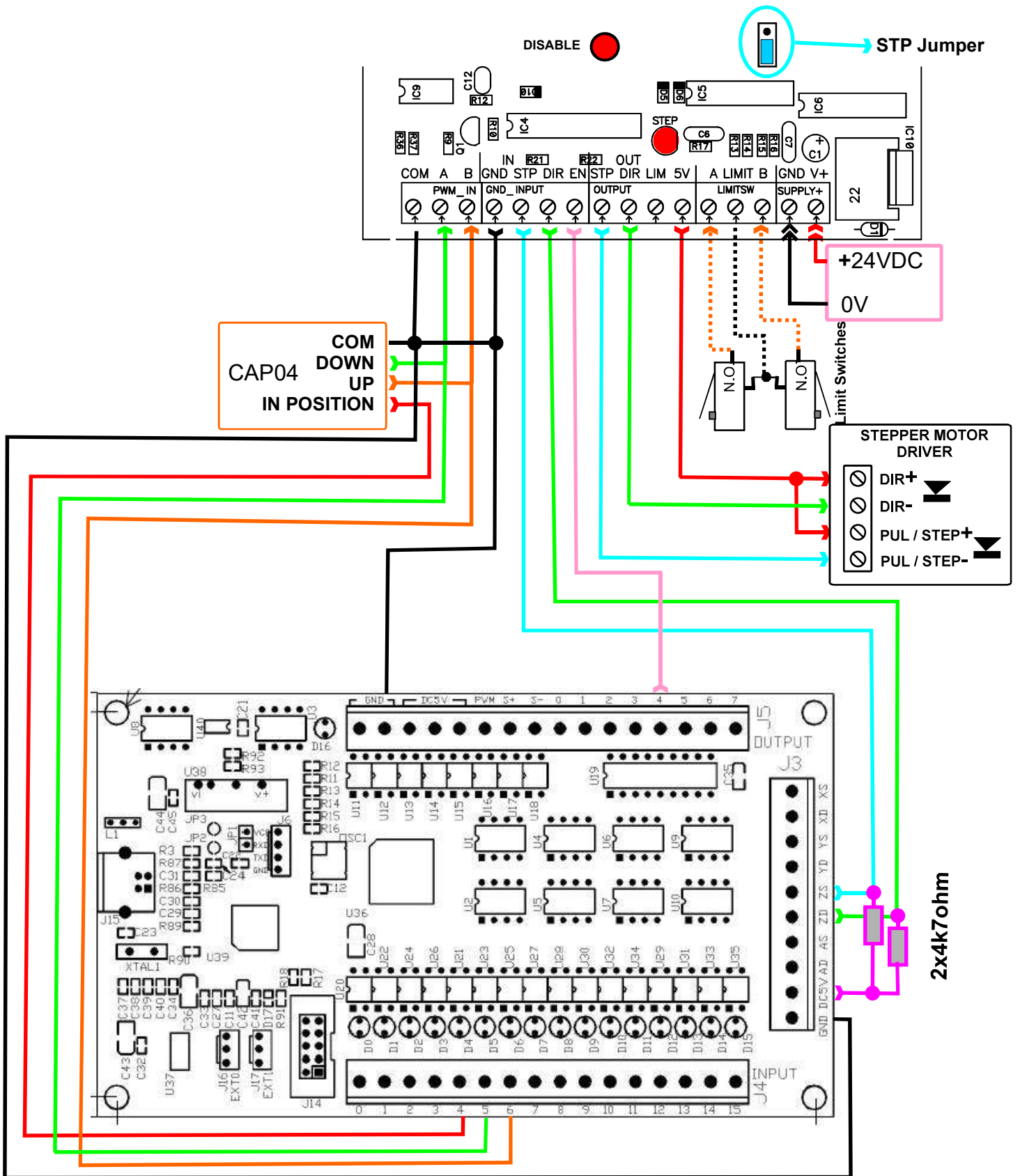
# CapStp11 - BITSENSOR USB Mach3 Board Connections



**MACH3 Configuration:**  
 PROBE > Port3-Pin4  
 INPUT#4 > Port3-Pin4  
 OUTPUT#4 > Port3-Pin4

**Check:**  
 OUTPUT#4, Active Low "X" "✓" for correct configuration.

# CapStp11 - AKZ 250-USB Mach3 Board Connections



## MACH3 Configuration:

### INPUTS

PROBE > Pin4 \*

INPUT#4 > Pin4 \*

THC DOWN > Pin5

THC UP > Pin6

### OUTPUTS

OUTPUT#4 > Pin4 \* (\* Do not change )

Check with DISABLE Led,

OUTPUT#4

Active Low "X" "✓" for correct setting.

# CapStp11 - MK4-ET Mach3 Board Connections

