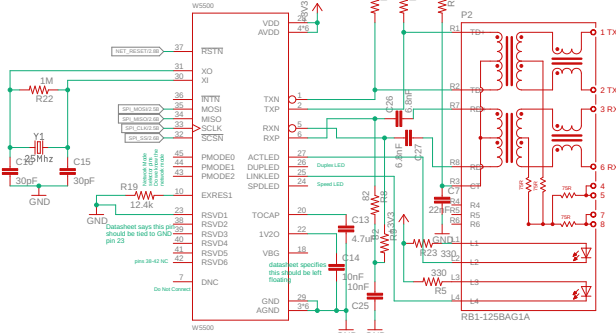
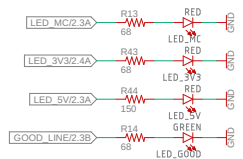
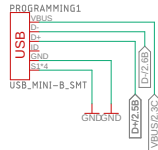
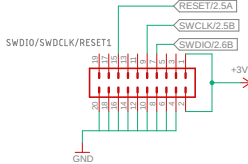
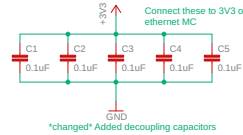


Connect these to 3V3 on ethernet MC

changed Added decoupling capacitors



Pinout diagram for the M0BO board. The diagram shows a top row of pins (1-37) and a bottom row of pins (1-37). The top row pins are: 1. BOARD_SDA, 2. BOARD_SCL, 3. BOARD_SDA, 4. BOARD_SCL, 5. SENSOR_SCL, 6. KILL_SWITCH, 7. SWITCH_1, 8. SWITCH_2, 9. SWITCH_3, 10. SWITCH_4, 11. SWITCH_5, 12. SWITCH_6, 13. SWITCH_7, 14. SWITCH_8, 15. SWITCH_9, 16. SWITCH_10, 17. SWITCH_11, 18. SWITCH_12, 19. SWITCH_13, 20. SWITCH_14, 21. SWITCH_15, 22. SWITCH_16, 23. SWITCH_17, 24. SWITCH_18, 25. SWITCH_19, 26. SWITCH_20, 27. SWITCH_21, 28. SWITCH_22, 29. SWITCH_23, 30. SWITCH_24, 31. SWITCH_25, 32. SWITCH_26, 33. SWITCH_27, 34. SWITCH_28, 35. SWITCH_29, 36. SWITCH_30, 37. SWITCH_31. The bottom row pins are: 1. BOARD_SDA, 2. BOARD_SCL, 3. BOARD_SDA, 4. BOARD_SCL, 5. SENSOR_SCL, 6. KILL_SWITCH, 7. SWITCH_1, 8. SWITCH_2, 9. SWITCH_3, 10. SWITCH_4, 11. SWITCH_5, 12. SWITCH_6, 13. SWITCH_7, 14. SWITCH_8, 15. SWITCH_9, 16. SWITCH_10, 17. SWITCH_11, 18. SWITCH_12, 19. SWITCH_13, 20. SWITCH_14, 21. SWITCH_15, 22. SWITCH_16, 23. SWITCH_17, 24. SWITCH_18, 25. SWITCH_19, 26. SWITCH_20, 27. SWITCH_21, 28. SWITCH_22, 29. SWITCH_23, 30. SWITCH_24, 31. SWITCH_25, 32. SWITCH_26, 33. SWITCH_27, 34. SWITCH_28, 35. SWITCH_29, 36. SWITCH_30, 37. SWITCH_31. The diagram also shows power pins: +5V, 5V, 3V, 3.3V, and GND. A note at the bottom right says "changed: M0BO line added".

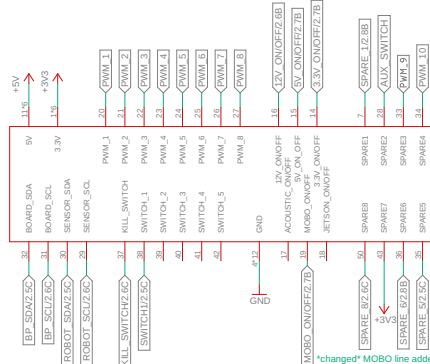
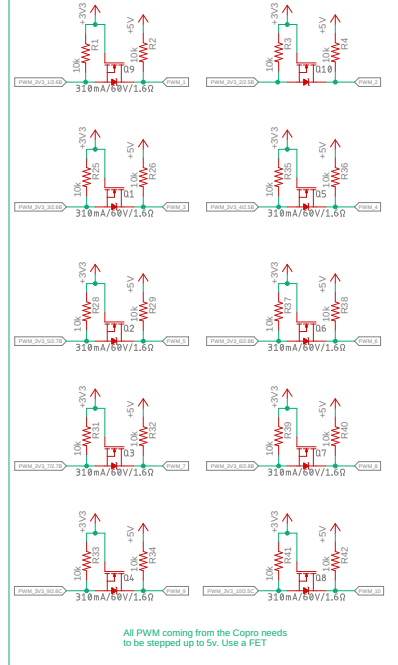


Figure 10 displays 16 channel pinmux configurations for the Coprocessor. Each configuration shows a 10kΩ pull-up resistor, a 310mA/60V/1.6Ω load, and a 5V supply. The channels are labeled from CH0 to CH15. The configurations are as follows:

- CH0: R1, D0
- CH1: R2, D1
- CH2: R3, D2
- CH3: R4, D3
- CH4: R5, D4
- CH5: R6, D5
- CH6: R7, D6
- CH7: R8, D7
- CH8: R9, D8
- CH9: R10, D9
- CH10: R11, D10
- CH11: R12, D11
- CH12: R13, D12
- CH13: R14, D13
- CH14: R15, D14
- CH15: R16, D15



Sheet: 1/3

Schematic Notes:

Parts:

Microcontroller: STM32F405RGT6

Datasheet: <https://www.st.com/content/ccc/resource/technical/document/datasheet/ef/92/76/6d/bb/c2/4f/f7/DM00037051.pdf/files/DM00037051.pdf/jcr:content/translations/en.DM00037051.pdf>
<https://www.digikey.com/en/products/detail/stmicroelectronics/STM32F405RGT6/2754208>

3 input OR Gate: SN74LVC3G04DCUT

Datasheet: <https://www.snapeda.com/parts/SN74LVC3G04DCUT/Texas%20Instruments/datasheet/>
<https://www.snapeda.com/parts/SN74LVC3G04DCUT/Texas%20Instruments/view-part/?ref=search&company=Underwater+Robotics+Team&t=SN74LVC3G04>

3 input AND Gate: SN74LVC1G11DCKR

Datasheet: <https://www.snapeda.com/parts/SN74LVC1G11DCKR/Texas%20Instruments/datasheet/>
<https://www.snapeda.com/parts/SN74LVC1G11DCKR/Texas%20Instruments/view-part/?ref=search&t=SN74LVC1G11>

MHz Crystals:

HC49US Digikey: <https://www.digikey.com/catalog/en/partgroup/hc-49us-series/4765>

SMD 32.768 kHz Newark : <https://www.newark.com/c/crystals-oscillators/crystals?brand=abracon&crystal-case=smd-3.2mm-x-1.5mm>

Mosfets: MOSFET-NCH-2N7002PW

Datasheet: <https://assets.nexperia.com/documents/data-sheet/2N7002PW.pdf>
<https://www.nexperia.com/products/mosfets/small-signal-mosfets/2N7002PW.html>

VBUS Converter: LM1117IMPX-3.3/NOPB

IC REG LIN 3.3V 800MA SOT223-4

<https://www.digikey.com/en/products/detail/texas-instruments/LM1117IMPX-3.3-NOPB/3440160>

Additional Standard Components:

- LED's
- Resistors
- Capacitors
- Diodes
- Switch

Administrative Notes:

Board Name: Titan CoPro

Schematic Creation: 09/2020

Schematic Designers:

David Chen, Nathan Ayer

Electrical Lead: Phillip Barker



Underwater Robotics
Team
Ohio State University

Electrical Team

CoPro

6/22/2021 19:09

Sheet: 3/3