ROVDOG Interface Board, Ver 3 Startup Notes

ROVDOG Interface board mounts on top of the BL1700 board using SamTec mezzanine headers at H6 - H11. It interfaces the CG5, Paros, compass, tiltmeters, etc. with the BL1700 and the ROV.

Assembly at board house:

- ESMI, Inc.
  - See separate assembly notes doc
  - Use a dead BL1700 board as a jig, place SamTec mezzanine headers at H6 - H11
  - tack solder in place

Assembly with ROVDOG:

- Hardware mount (from top down):
  - 4-40 x ¼" pan head SS machine screw (4)
  - #4 nylon washer (4)
  - ROVDOG Interface pc board (observe +X convention)
  - 4-40 x 0.845" custom aluminum hex standoff (4)
  - BL1700 pc board (observe +X convention)
    - Verify clearance under, trim any long leads especially for power input
  - ***There are 2 versions of the ROVDOG aluminum base plate***
    - Both require (4) 4-40 studs for the 2 pc boards
  - Version 1 Gold Anodized
    - Untapped, countersunk from bottom #4 mounting holes
    - #4 nylon shoulder washer (4)
    - 4-40 SS nut (4) Use lock tight
    - ROVDOG aluminum base plate (Gold Anodized)
    - 4-40 x 5/8" flat head SS machine screw (4)
  - Version 2 Blue Anodized
    - 4-40 tapped, not countersunk mounting holes
    - #4 x 1/8" nylon spacer (4)
    - ROVDOG aluminum base plate (Blue Anodized)
    - 4-40 x 5/8" pan head SS machine screws (4) Use lock tight
- Most connectors are the same
  - JT1 is now a 2x3
  - JCOMP 1x6
  - JTEST
  - H6-H11 mezzanine connectors which plug directly into the BL1700
  - H12-H15 require new ribbon cables
  - BL1700 power requires 1x2
  - ROV serial 1x4

Need:

- ??" BL1700 +15.3 VDC cable from **J8** ROVDOG_ISO
  - put the AMP connector on the end of existing wires that went to the BL1700 screw terminals
  - 20 AWG stranded wire Red +15.3 VDC & Black Common to BL1700 screw terminals
  - ***Double check that +15.3 VDC & common are not reversed somewhere***
- 45" ROV serial cable from **J3** ROVDOG_ISO, connect to either
  - **JROV** for optical isolation
  - **JROV_bypass** to bypass
- 20" CGA power cable
- new ribbon cables for **H12**, **H13**, **H14**, **H15** Length required?

- **JCOMP** is a new connector assembly, same type as **JPARO**
- JT1 & JT2 have been combined into just **JT1**, see schematic
- **USB** is now just a 1x4 C-Grid vertical header (not used to date)

Initial Power up Tests

- Glenn or Mike should review procedures
- don't connect CG5 or BL1700 yet
- measure power voltages: +12V, +12VB, +5V, -5V, +15.3V
- Check for overheating with temperature probe or finger test (careful):
    - LT1121
    - Motor controller
    - Dropping diodes
    - Diode bridge
- hex switch: select instrument #, see ROVDOG Unit ID new doc
- now connect BL1700
    - repeat above, check boot up, etc
- now connect CG5