| Yuma FBV polarities |  |  |  |
| :---: | :---: | :---: | :---: |
| It is customary for upward ground motion (downward boom motion) to result in a positive instrument output. <br> General Rule for U7: <br> When the capacitance to U7-13 increases, U7-8 goes + When the capacitance to U7-7 increases, U7-8 goes - |  |  |  |
| Locate +UP wire on disconnected coil/magnet. |  |  |  |
| Boom moved up | +UP goes | + |  |
| Boom moved down | +UP goes | - |  |
| Circuit boards Rev. 4.00 9-15-2014 JP5 1-2 Default Config. |  |  |  |
| Feedback Loop |  | Output Amplifiers |  |
| Ground moves | up |  |  |
| Boom moves | down |  |  |
| Bottom sensor plate Cb to J3-3 and J2-3 | decreases |  |  |
| Cb to J2-3 and U7-13 | decreases |  |  |
| U7-8 and U1A-3 | - |  |  |
| U1A-1 | - |  |  |
| U5-3 | + | U2A-2 | + |
| P2-1 | + | U2A-1 | - |
| J4-1 and Actuator +UP | + | U2B-7 | + |
| Coil force on boom | up | $\mathrm{Hi}+\mathrm{Out}$ | + |
| Circuit boards Rev. 4.00 9-15-2014 JP5 2-3 Old config. |  |  |  |
| Feedback Loop |  | Output Amplifiers |  |
| Ground moves | up |  |  |
| Boom moves | down |  |  |
| Bottom sensor plate Cb to J3-3 and J2-4 | decreases |  |  |
| Cb to J2-4 and U7-7 | decreases |  |  |
| U7-8 and U1A-3 | + |  |  |
| U1A-1 | + |  |  |
| U5-3 |  | U2A-2 | + |
| P2-1 |  | U2A-1 | - |
| J4-1 and Actuator -UP | - | U2B-7 | + |
| Coil force on boom | up | $\mathrm{Hi}+\mathrm{Out}$ | t |
| To achieve the proper output polarity, the wires connecting J2 and J 3 , pins 3 and 4 should be reversed so that $\mathrm{J} 2-3$ goes to J 4 and J2-4 goes to J3-3 |  |  |  |
| Then, to maintain negative feedback polarity and avoid oscillation, J4-1 should go to Actuator -UP wire. |  |  |  |



|  | FORCE BALANCE YUMA SENSOR | SEISMOMETER <br> \& ACTUATOR |
| :---: | :---: | :---: |
| dF NELSON | REY 4.0 <br> 10-16-2014 |  |



