Fully Conditioned Analog Output

Note: Before beginning these instructions, complete the Quick Start Guide (Gen 5 or OPTIMA)

Configure the 'Fully Conditioned' analog mode in NetForce

- a. Double click NetForce to run.
- b. Select 'Setup' then 'Hardware Installation', and click on 'Modify' to open the 'AMTI System Configuration' window.
- c. Under 'Global Settings', and 'Digital Outputs' select the appropriate units. <u>NOTE:</u> When integrating with a 3rd party system, determine if it is expecting metric or English units and choose accordingly (for Nexus choose English units, for Cortex or QTM choose metric).
- d. Set 'Analog Outputs' to 'Fully Conditioned'. Press 'Apply' and 'Save'.
- e. Under the list of *'Installed Amplifiers'* click on the *'Configure'* button for the amplifier of interest. This will open the *'Amplifier Configuration SN:XXXX'* window (see image below).
- f. The gain and excitation should have been selected already, if not return to step 6 of the *Quick Start Guide* (OPTIMA or Gen 5 version, as applicable).
- g. Once the Gain and Excitation are set, click the 'Analog Adjust' button. This will set the 'Analog Scale Factor' such that the 'Analog Outputs' for each channel match the 'Amplifier Range' (see image below). This ensures that the +/-5V output of the amplifier corresponds to the working range of the system (defined by the gain settings).

<u>NOTE:</u> If your version of NetForce does not have an 'Analog Adjust' button simply enter values for the 'Analog Sensitivities' and press apply. Adjust the values you enter until the 'Analog Outputs' are similar to the 'Amplifier Range'

- h. Record the values for the 'Analog Scale Factor'/'Analog Sensitivities' for each channel. These are used to convert voltages to forces and moments in the 3rd party software. You will simply divide the voltage (in mV) by the 'Analog Scale Factor'/'Analog Sensitivity' for that channel.
- i. Click 'OK', then in the 'AMTI System Configuration' window be SURE to press 'Save'.

| Acquisition Rate 1000 v datasets/sec Digital Outputs Metric Units v Analog Outputs Fully Condition v V | Find Amplifiers Set Platform Order | | ifier Configuration SN | : 2186 | _ | _ | _ | _ | | |
|--|------------------------------------|---------|------------------------|---------|----------|----------|----------|---------------|----------|------------------|
| | | | Configuration Informa | ation | | | | | | FORCE AND MOTION |
| Installed Amplifier | Associated Platform | | | Fx | Fy | Fz | Mx | My | Mz | |
| Index Model # Serial # Configure Blink | Serial # Calibration O | Order O | | N | N | N | N-m | N-m | N-m | |
| 1 HPS-SC 2186 | 9910M | 1 | Platform Capacity | 4448.22 | 4448.22 | 8896.44 | 2666.44 | 1785.16 | 1333.22 | |
| | | | Amplifier Range | 715.76 | 720.71 | 5741.50 | 730.47 | 574.14 | 302.04 | Max |
| | | | | -715.76 | -720.71 | -5741.50 | -730.47 | -574.14 | -302.04 | Min |
| | | | Analog Outputs | 724.64 | 724.64 | 5747.13 | 729.93 | 581.40 | 304.88 | Max |
| | | | | -724.64 | -724.64 | -5747.13 | -729.93 | -581.40 | -304.88 | Min |
| 1 | | | Current Configuration | | | | | | | |
|] | | | | | | | | Cable length: | 30.00 | Feet |
| Advanced Export Optima | Apply | Save | | Fx | Fy | Fz | Mx | My | Mz | |
| | | | Excitation | 10.0 • | • 10.0 • | 10.0 🔻 | 10.0 | ▼ 10.0 ▼ | 10.0 💌 | Volts |
| | | | Gain | 2000 - | - 2000 - | 1000 👻 | 1000 | ▼ 1000 ▼ | 1000 💌 | |
| | | | Zero Setpoint | 0 . | • 0 • | 0 🔻 | 0 | • 0 • | 0 - | Percent |
| | | | | mV/N | mV/N | mV/N | mV/(N-m) | mV/(N-m) | mV/(N-m) | _ |
| | | | Analog Scale Factor | 6.9 | 6.9 | .87 | 6.85 | 8.6 | 16.4 | Conditioned |