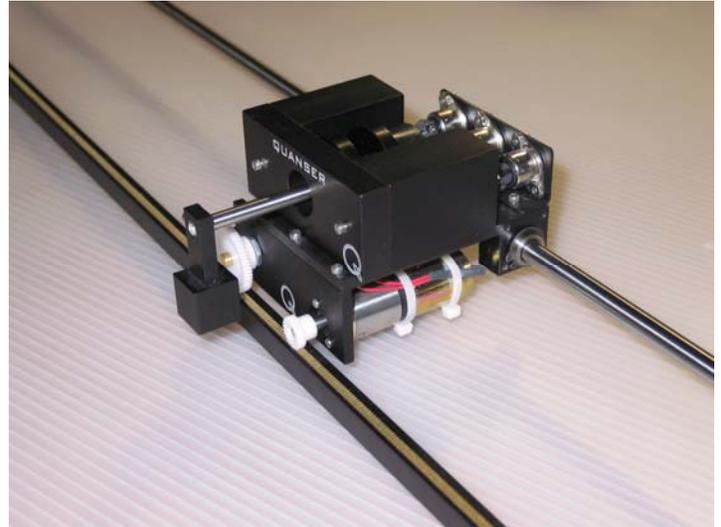


Getting Started...

Step 1: Unpack

Carefully unpack the following main components:

- IP02 Linear Cart (or IP01)
- Medium and long pendulum links
- VoltPAQ-X1 amplifier (or equivalent)
- Data-acquisition board (e.g. Q2-USB)
- Cables
- QUARC CD (this may have been e-mailed to you)
- IP02 CD (includes controllers and documentation)



Step 2: QUARC Installation

Before setting up the hardware, install and test QUARC on your PC.

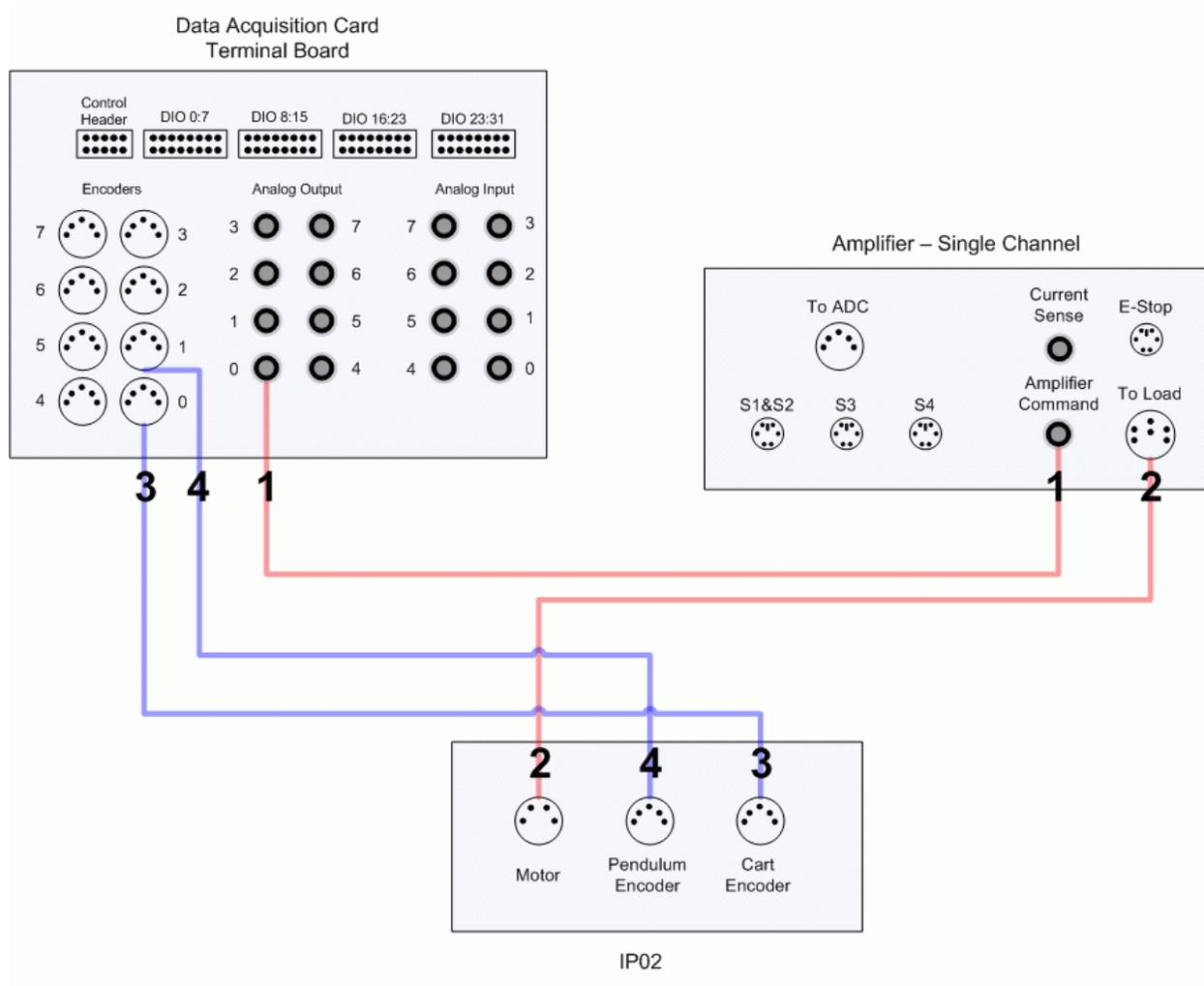
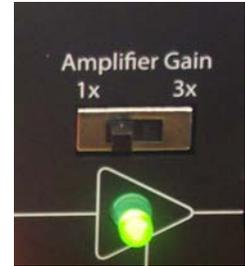
1. Make sure you have all the required software, as listed in the *QUARC Compatibility Table* document.
2. See the *QUARC Installation Manual* for details on how to install the software.
3. Make sure you test the system using the *Sine and Scope* demo. You can access this by typing `qc_quarc_demos` in the Matlab prompt.

Step 3: Connect System

Watch the setup VIDEO in the \Getting Started folder on the CD.

The connections for the IP02 are shown below. For full details, see the *IP01_2 User Manual* (e.g. wiring IP01 with potentiometer).

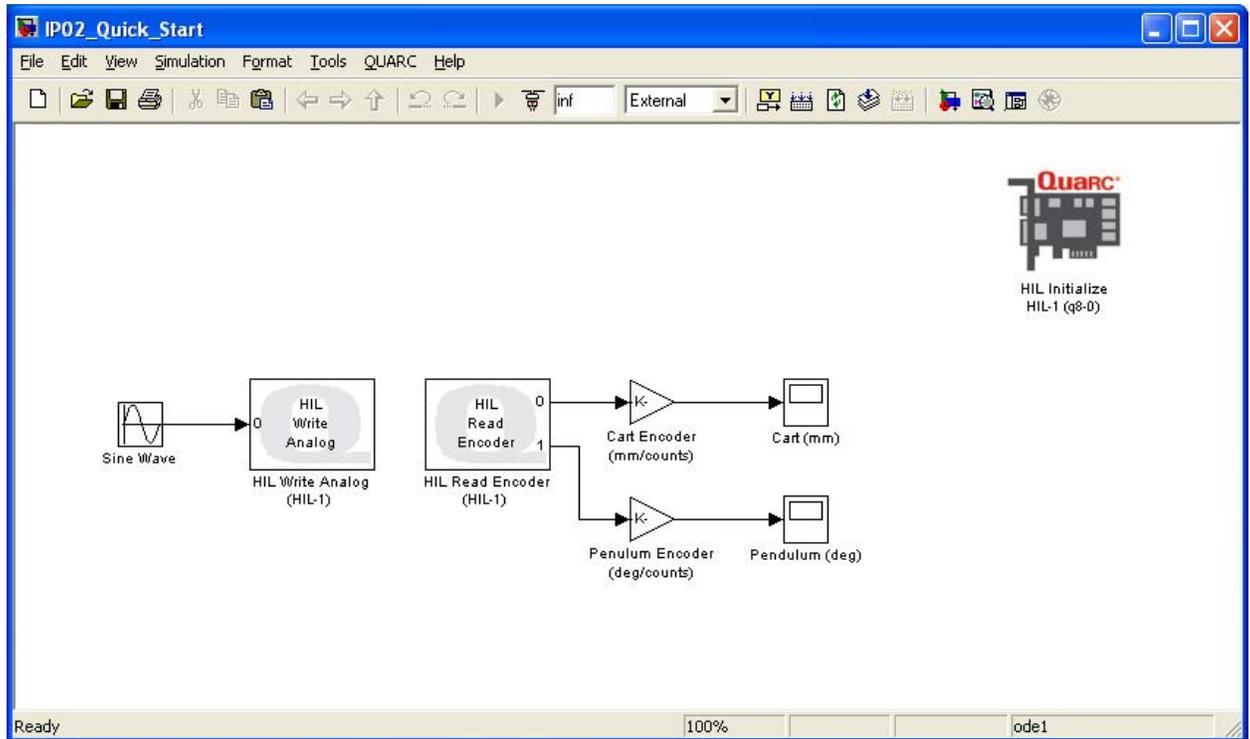
IMPORTANT: Make sure the Amplifier Gain switch on the VoltPAQ is set to 1!



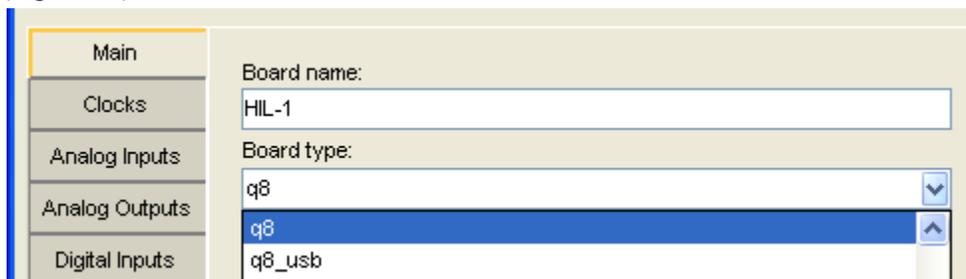
Note: The data acquisition device shown above is meant to be a general DAQ board. You can use various devices to interface with the system, e.g. Q2-USB, Q8-USB, QPID, QPIDe, NI DAQ devices, and so on.

Step 4: Start-Up Controller

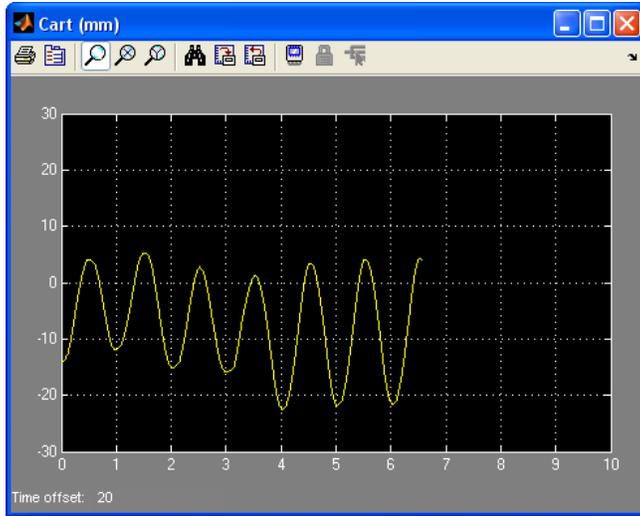
1. Make sure your VoltPAQ-X1 (or equivalent amplifier) is powered ON.
2. Open the Simulink model called *IP02_Quick_Start* shown below.



3. Double-click on the *HIL Initialize* block and choose the board that is installed on your system (e.g. QPID).



4. Move the cart to the middle of the track.
5. Go to QUARC | Build
6. Go to QUARC | Run
7. The cart should start to move back-and-forth and the *Cart (mm)* scope should be reading something like this:



Note: Since this is in open-loop, the cart will eventually drift to one side.

8. As its moving, manually rotate the pendulum shaft and verify that a reading is obtained in the *Pendulum (deg)* scope:

