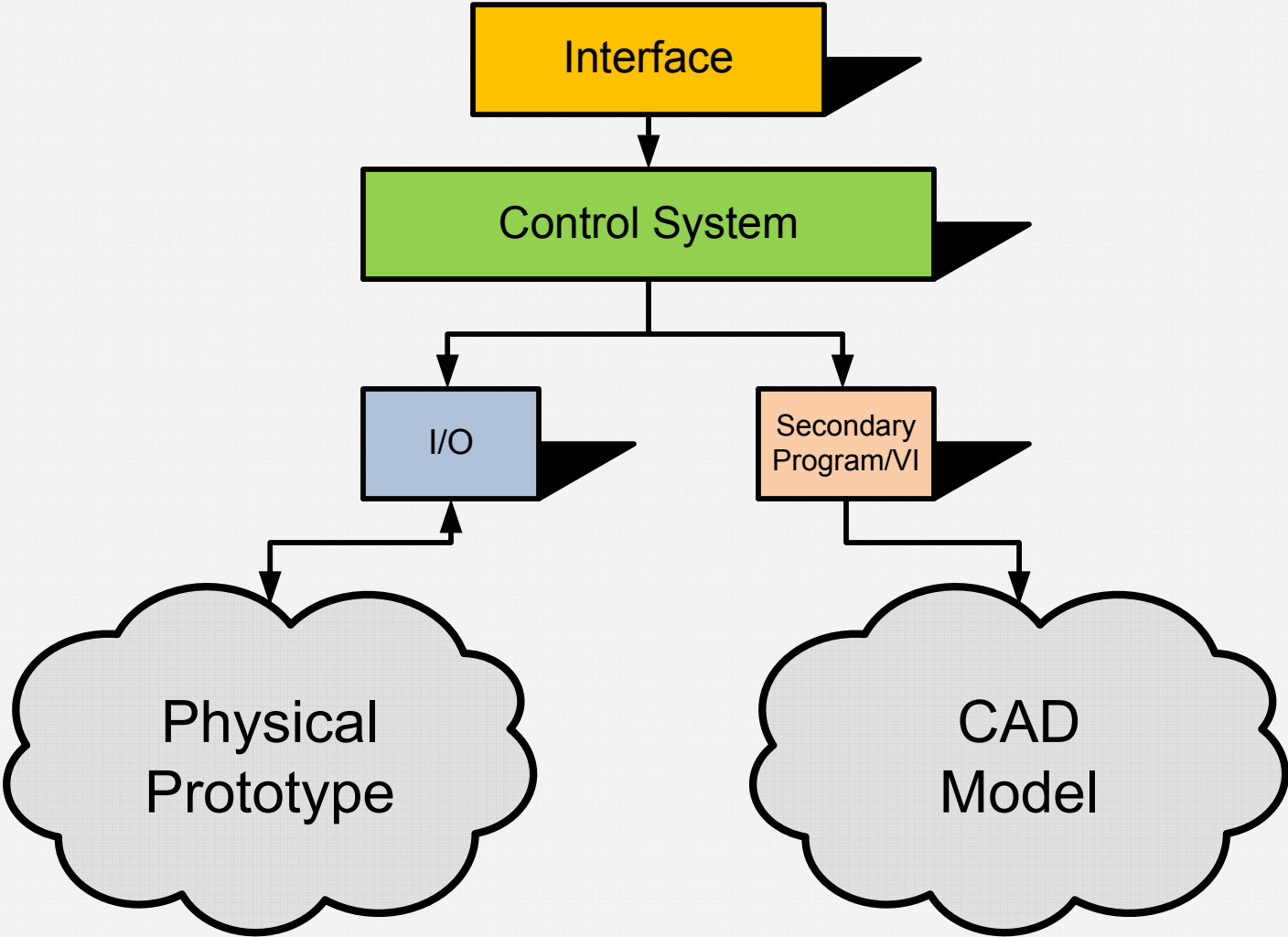


# Controls Hierarchy

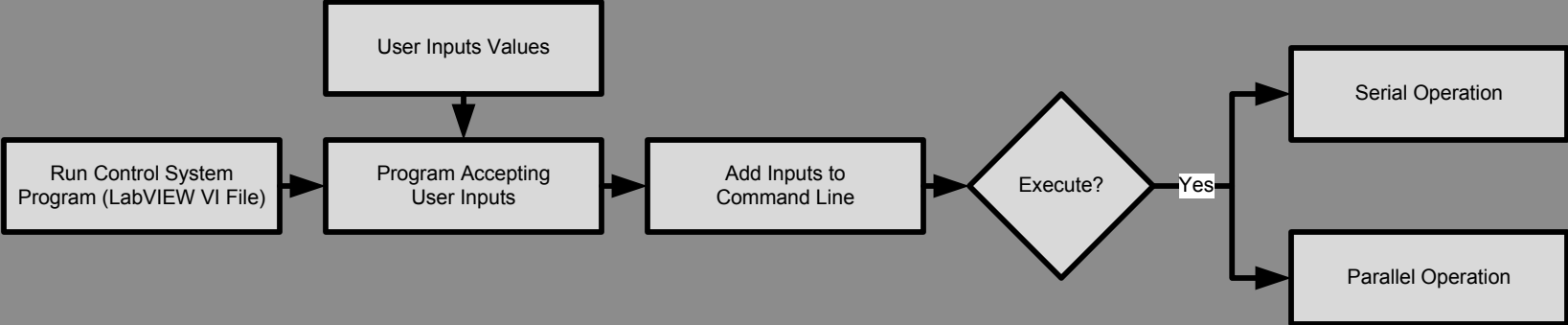


Interface

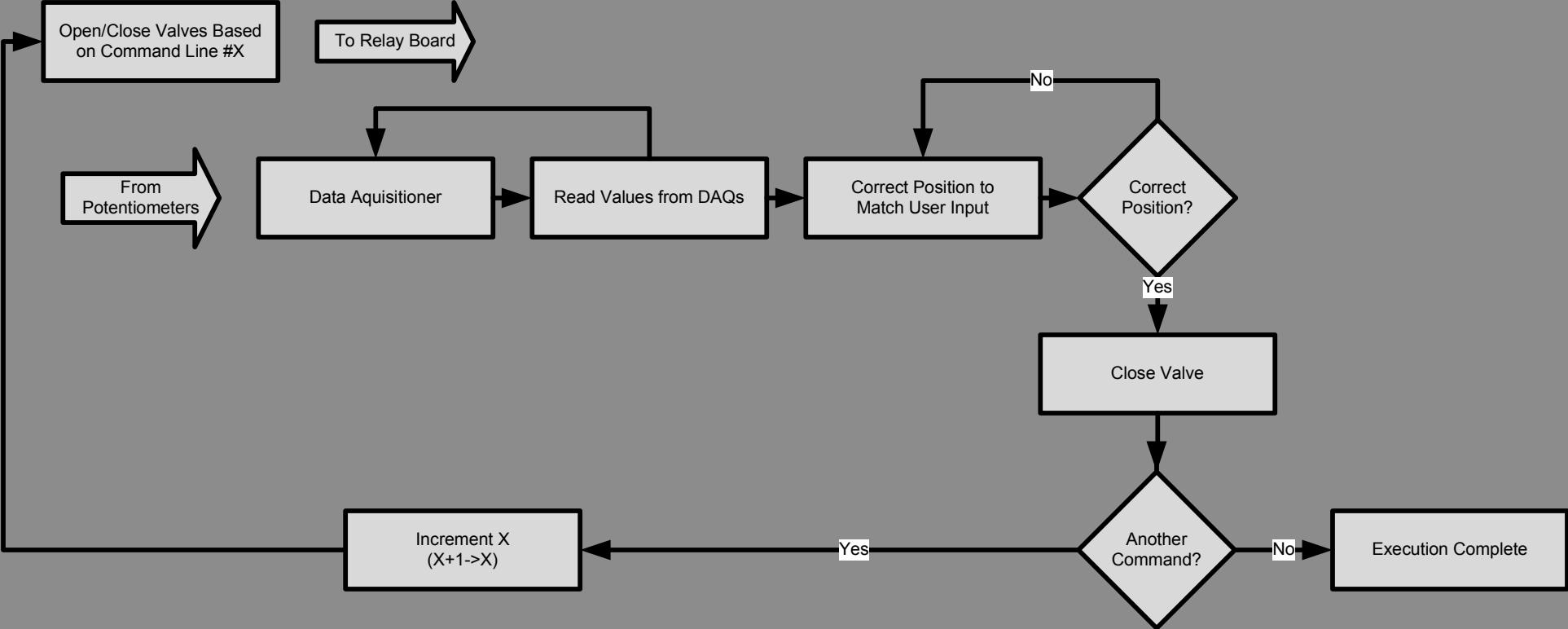
The interface is set against a light gray grid background. It features several control elements:

- Wrist LR:** A numeric input field with a value of 30.
- Wrist UD:** A numeric input field with a value of 45.
- Forearm:** A numeric input field with a value of 56.
- Elbow:** A numeric input field with a value of 100.
- Output 1-4:** Four numeric input fields, each with a value of 0.
- Buttons:** "Move" (next to Elbow), "Insert" (next to Output 4), "STOP" (large red text), "Run Program", "Save", "Load", and "Clear".
- Commands:** A text input field containing the word "Pause".
- Listbox:** A scrollable list containing the following items: "Start Program" (highlighted in blue), "Command Strings", "Go", "Here", "For Moving Things", "LIFE304556100...", "Pause", and "End".

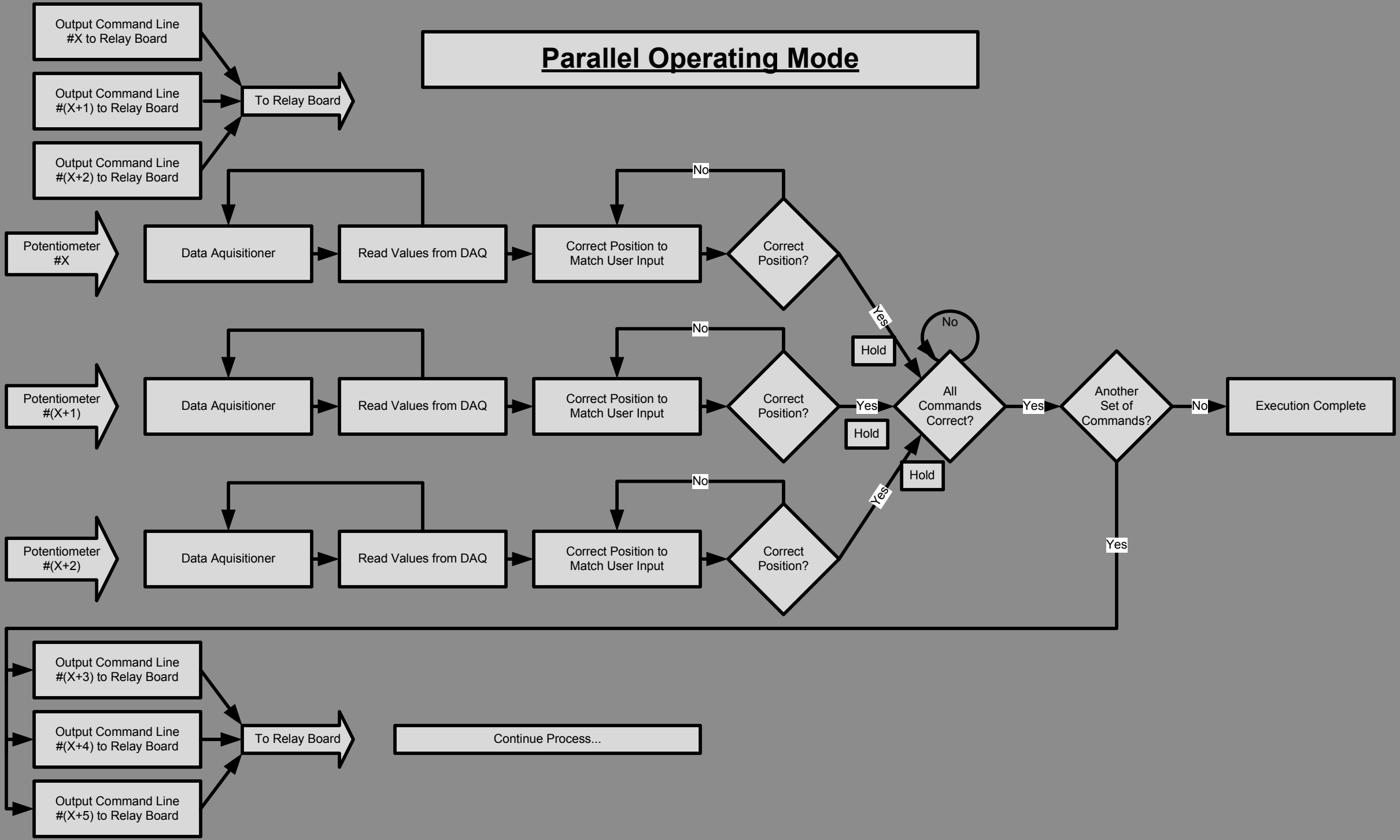
# Control System Operating Modes



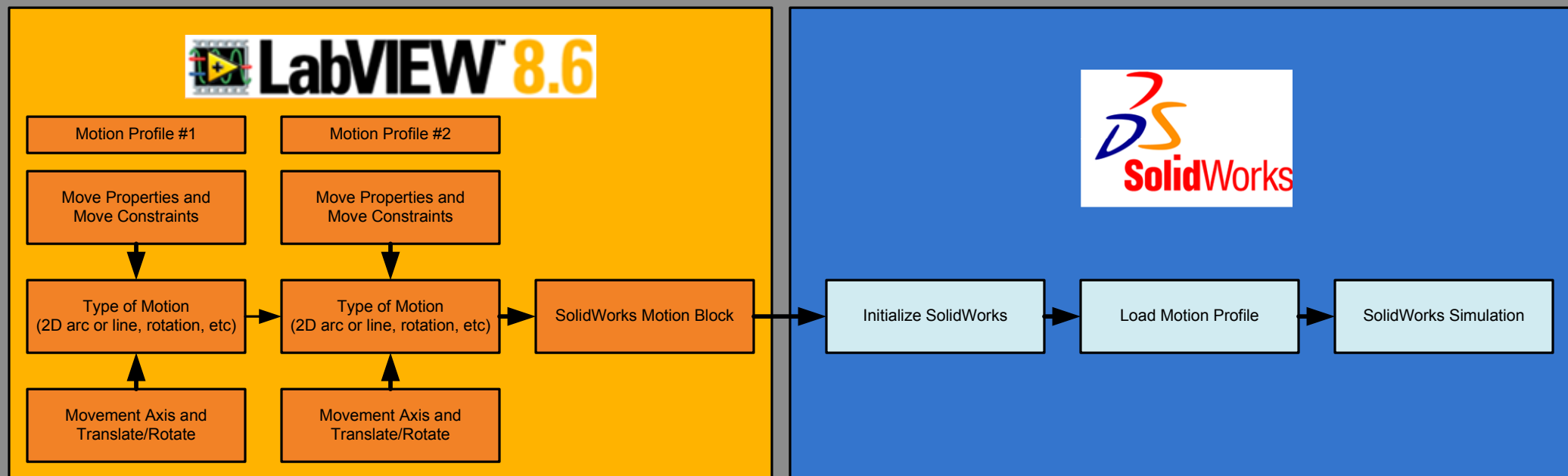
# Serial Operating Mode



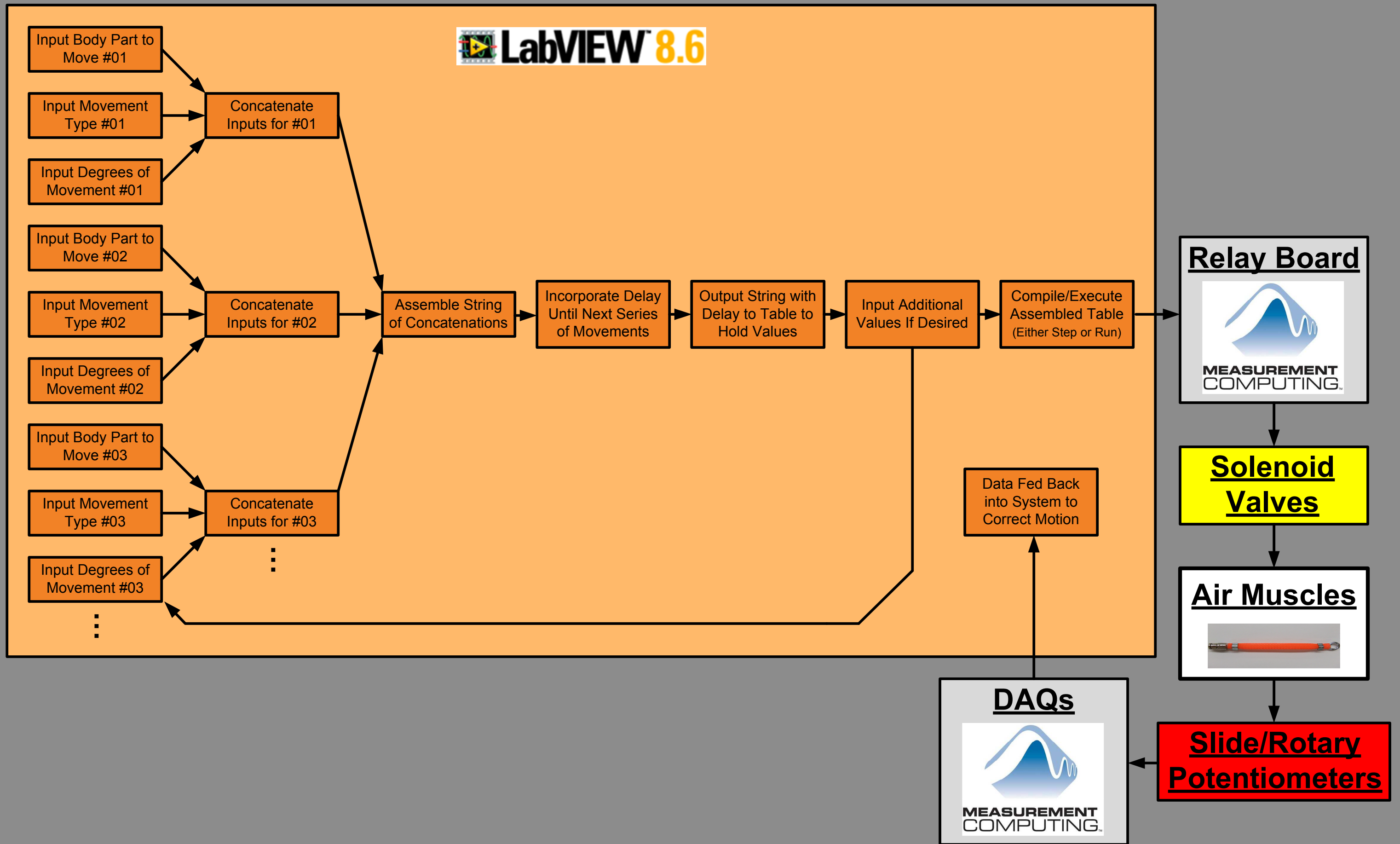
# Parallel Operating Mode



## LabVIEW to SolidWorks Interface via NI Mechatronics Toolkit



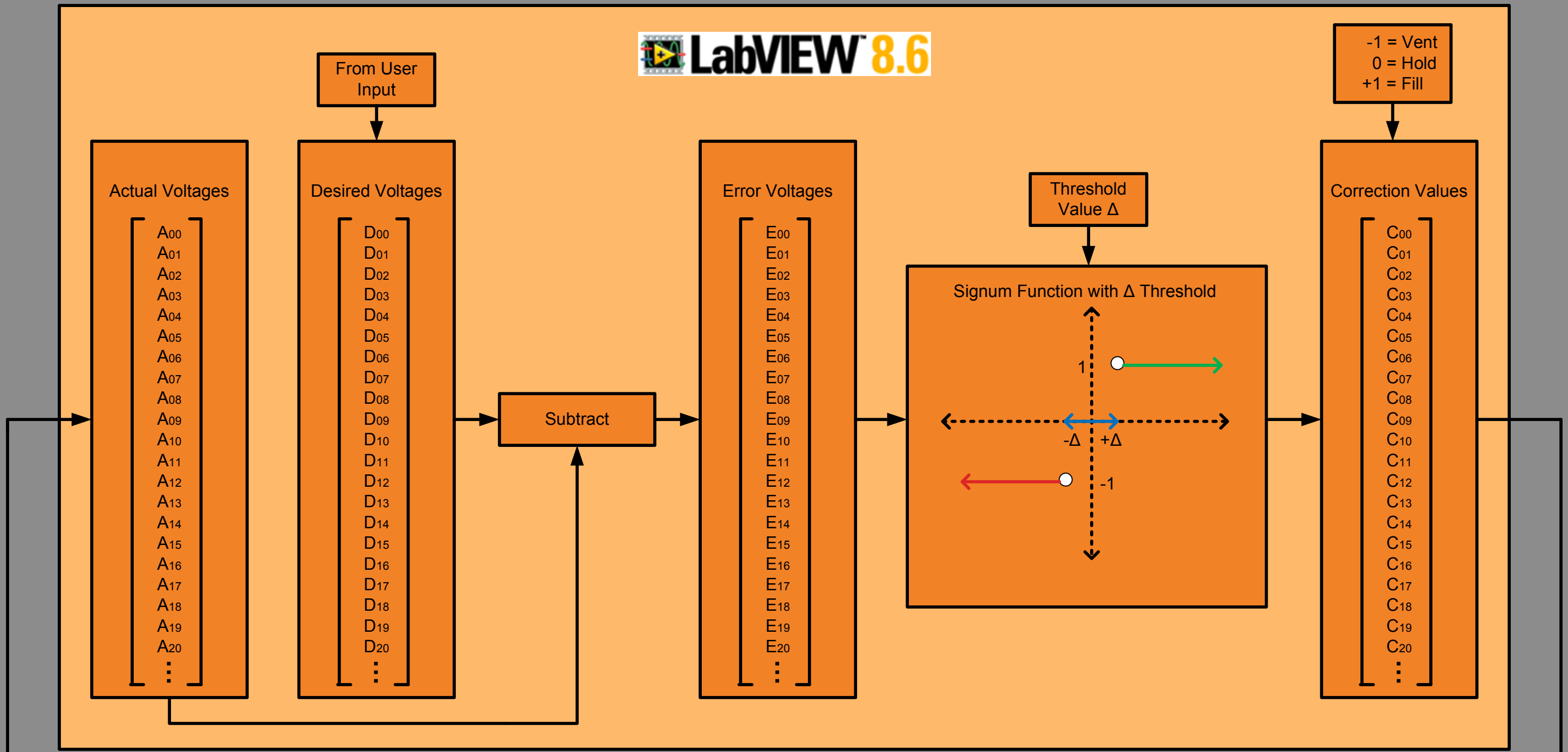
# LabVIEW to Physical Prototype Control System Flow Diagram



# LabVIEW Motion Correction Feedback Loop

LabVIEW 8.6

-1 = Vent  
0 = Hold  
+1 = Fill



**DAQs**

MEASUREMENT COMPUTING

**Slide/Rotary Potentiometers**

**Air Muscles**

**Solenoid Valves**

**Relay Board**

MEASUREMENT COMPUTING