

## HUBO2 DEMO PROCEDURE

### Startup Procedure

Get remote from clip on Hubo's shoulder  
Level the base plate that Hubo stands on  
Power on external power supply switch  
Power on Hubo main switch  
Power on Hubo PC1 switch  
Open Remote Desktop Viewer  
Under "Protocol" select "RDP"  
In the "Host" field enter 192.168.1.37  
Log in using username hubo and password 1234  
Navigate to and open C:\Rainbow\_drexel\Rainbow\_drexel\Rainbow.dsw  
Click RainbowGUI Classes project on the left  
Click exclamation mark on the right to execute  
If it does open up the GUI, go to Build>Set Active Configuration, select RainbowGUI-Win32 Debug  
On Hubo's remote, push button "2" to turn on the motor controllers  
Wait for motor controllers to start up and make sure fans are running  
Stand near Hubo to catch him and hold remote ready to push button "1" to shut him off if needed  
Click "RTX On " button  
Click "Load Param" button  
Click "FET On" button  
Click "CNTRL On" button  
In "Initialize HUBO2" tab click "All init pos" button  
Select "Hubo2 Lower Status" tab  
The HOME Search row should all be 6 's (if not, click "Lower Init" in "Initialize HUBO2" tab  
Select "Hubo2 Upper Status " tab  
The HOME Search row should all be 6 's  
Select "Walking Demo" tab  
Click "Range on" button  
Click "Walk Ready" button  
Select "Sensors" tab  
Click "FT Nulling" button to zero force/torque sensors  
Lower Hubo onto base plate with cherry picker remote (black bar should be ~4-in above Hubo's head)  
Click "FT Angle Zero" button  
Click "IMU Nulling " button  
Maybe put in IMU bias in the Roll Offset and Pitch offset if Hubo is not level  
Click "ZMP Init Start" button (In "Sensors" tab make sure the ZMP values at bottom are negligible)

### Demo Procedure

Select "Walking Demo" tab  
Insert number of steps in the "Step Count" field  
Push "Walking Set" button  
Push "Go" button  
Under "Demo" area, click drop-down menu and select "demo"  
Push "Motion" button

### Shutdown Procedure

Go to Start > Run  
Type "shutdown -t 0" without quotes

Power off the PC1 switch on Hubo  
Power off the main power switch on Hubo  
Power off the external power supply

### **Walking Section**

Forward: How far forward to walk in meters per step

Side: How far to sidestep in meters per step

Rotation: How far to rotate in degrees per step (+ is to Hubo's left. - is to Hubo's right)