GAME

# Final Competition

REMINDER!

- Saturday, November 14, 2009!
- FTC Scrimmage
- Free food!

# Final Competition

- Schedule

- 8:30 AM – Teams Arrive & Setup
- 9:15 AM – Opening
- 9:35 AM – Free Practice
- 10:45 AM – Matches
- 11:45 AM – Lunch
- 12:45 PM – Matches
- 2:45 PM – Closing and Awards
- 3:30 PM – Everybody is outta here!

# FTC Competition

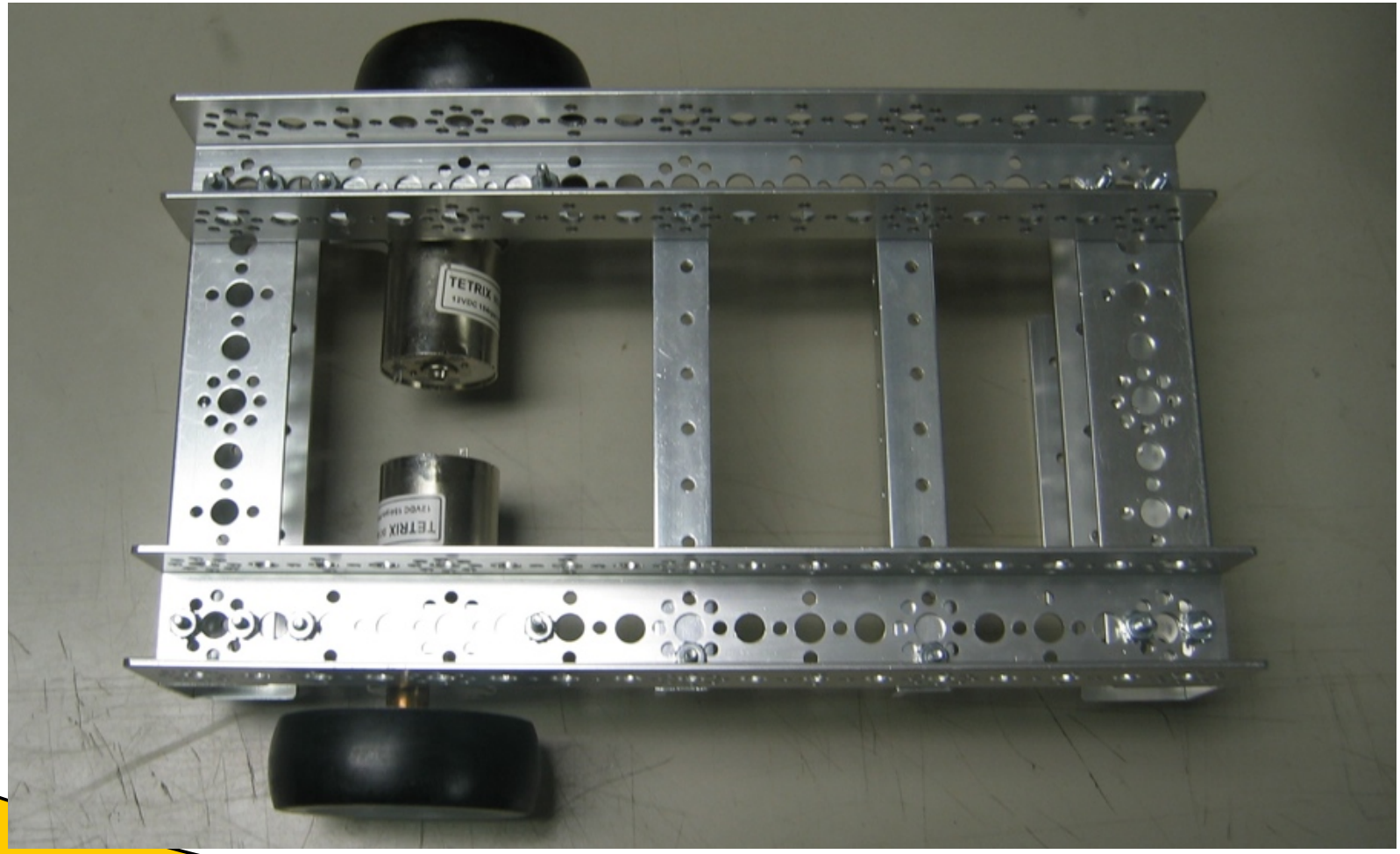
video

# DRIVE BASE

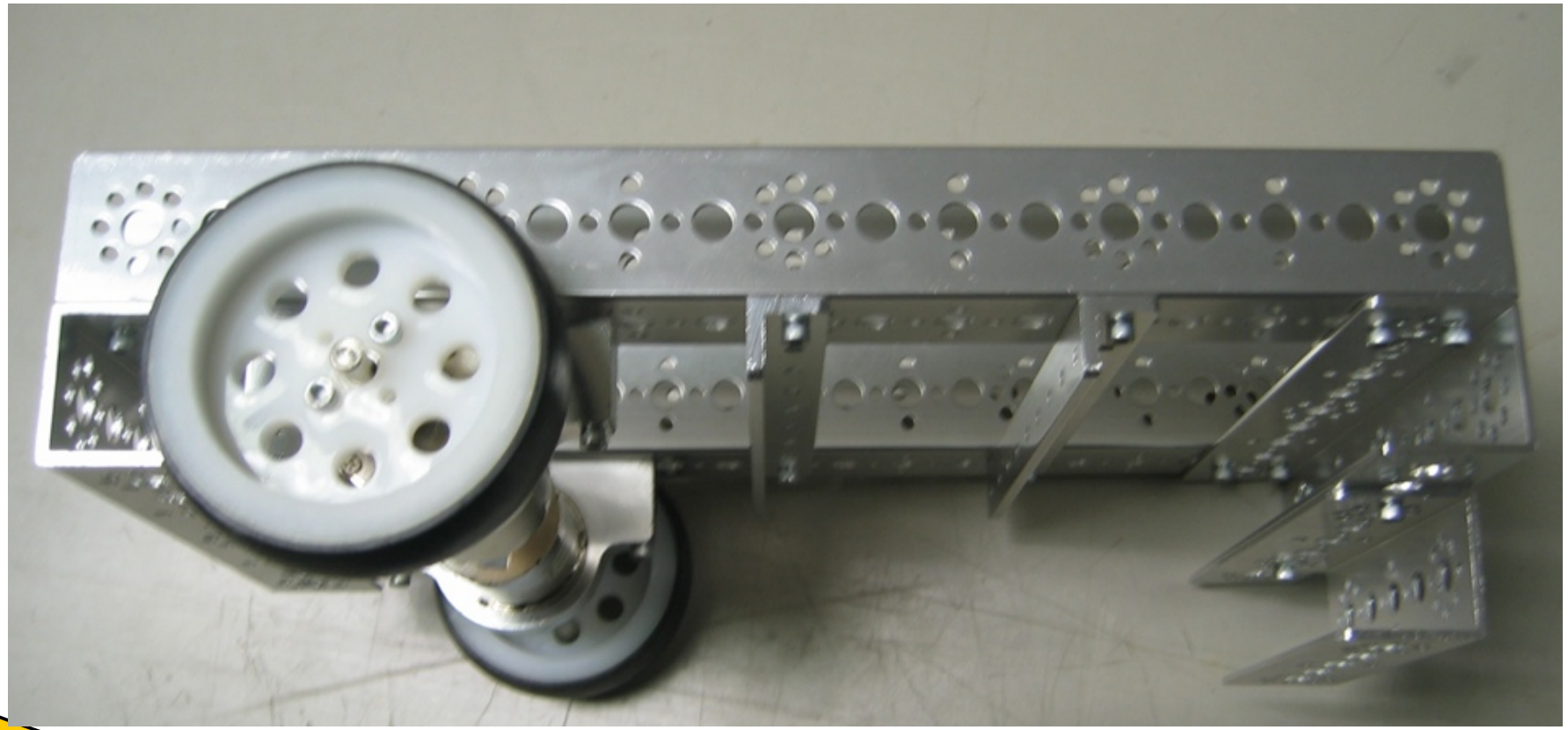
# Drive Base

Put together a drive base usable
for the final competition

# Drive Base



# Drive Base



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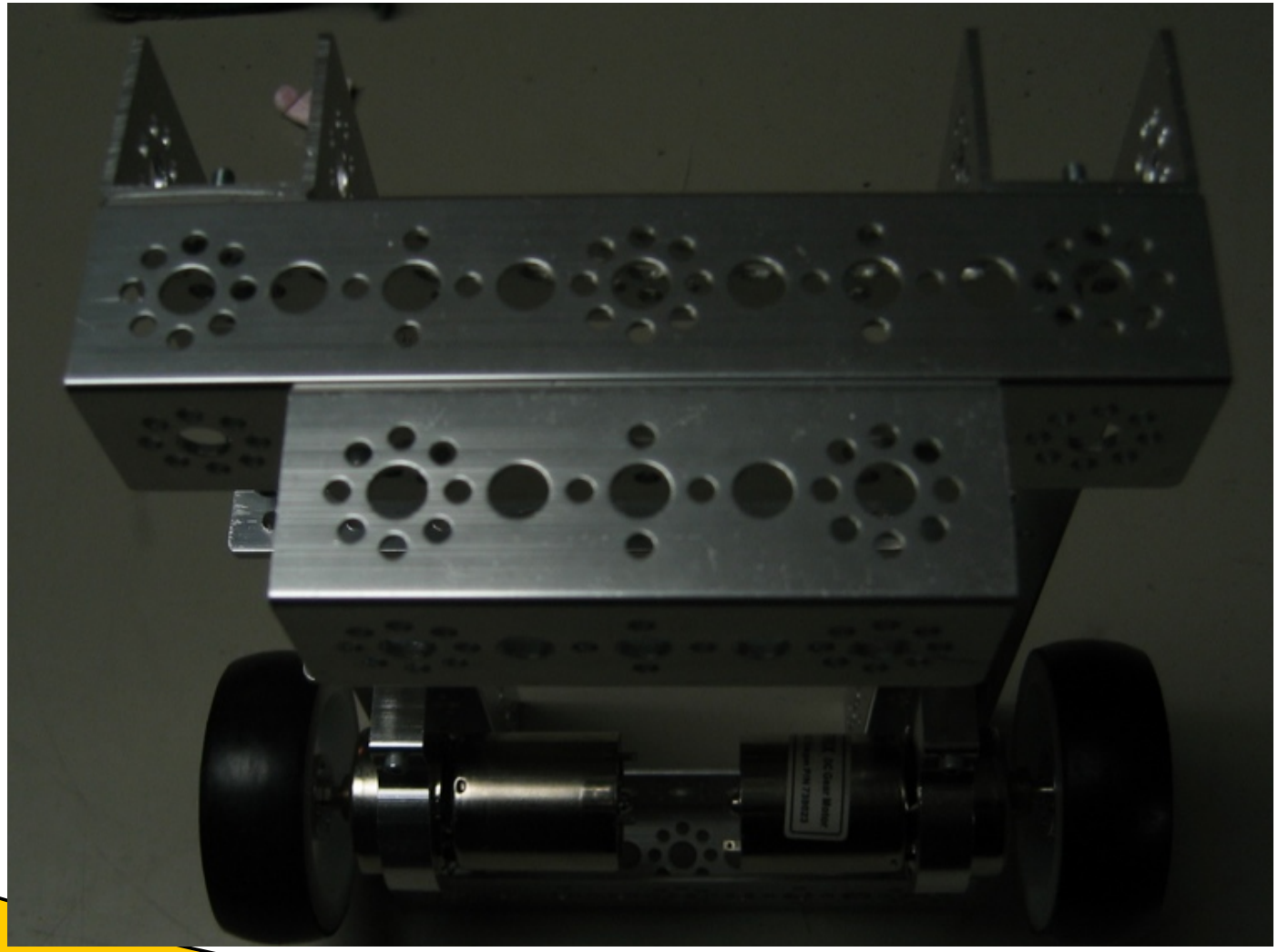

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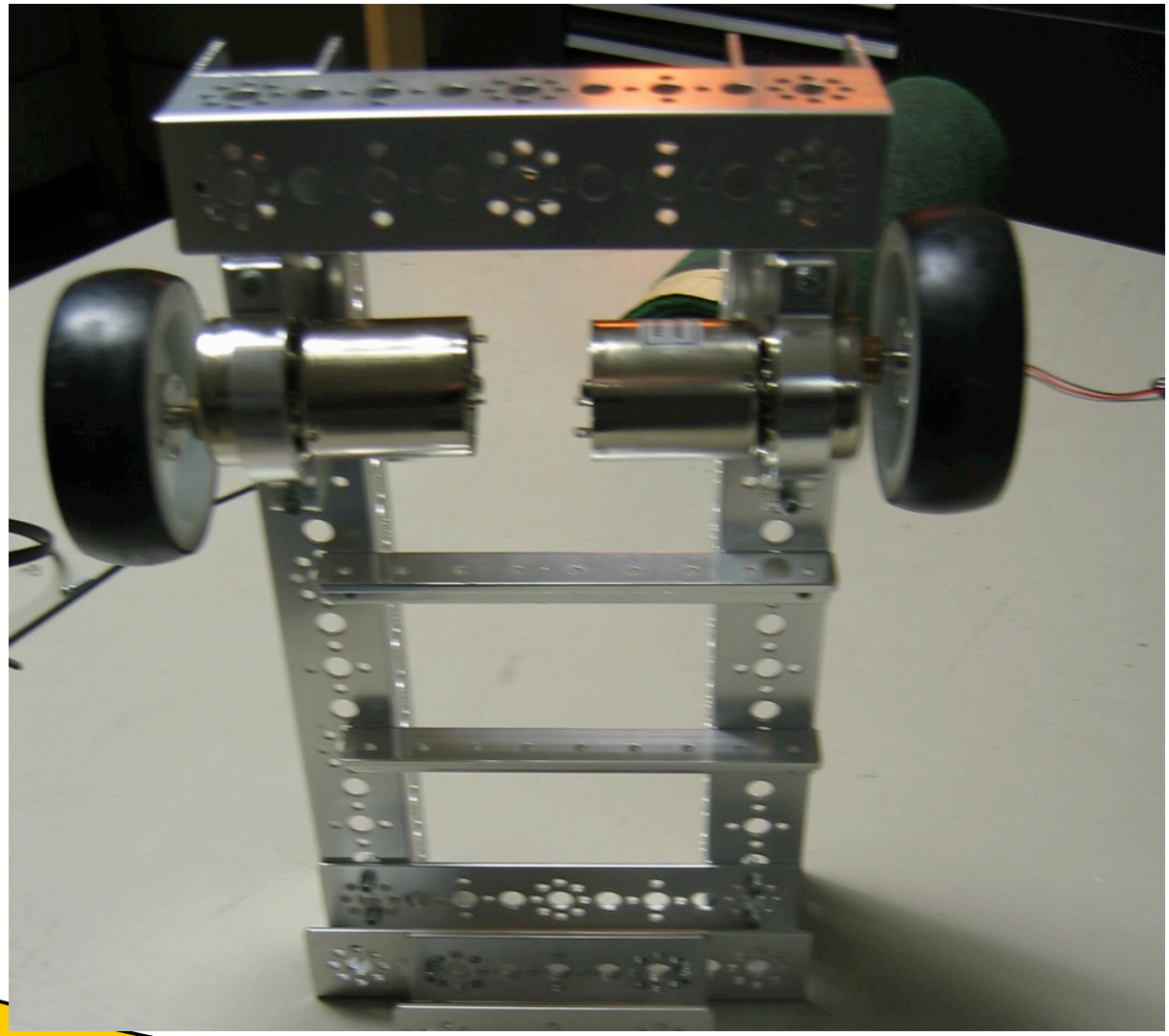

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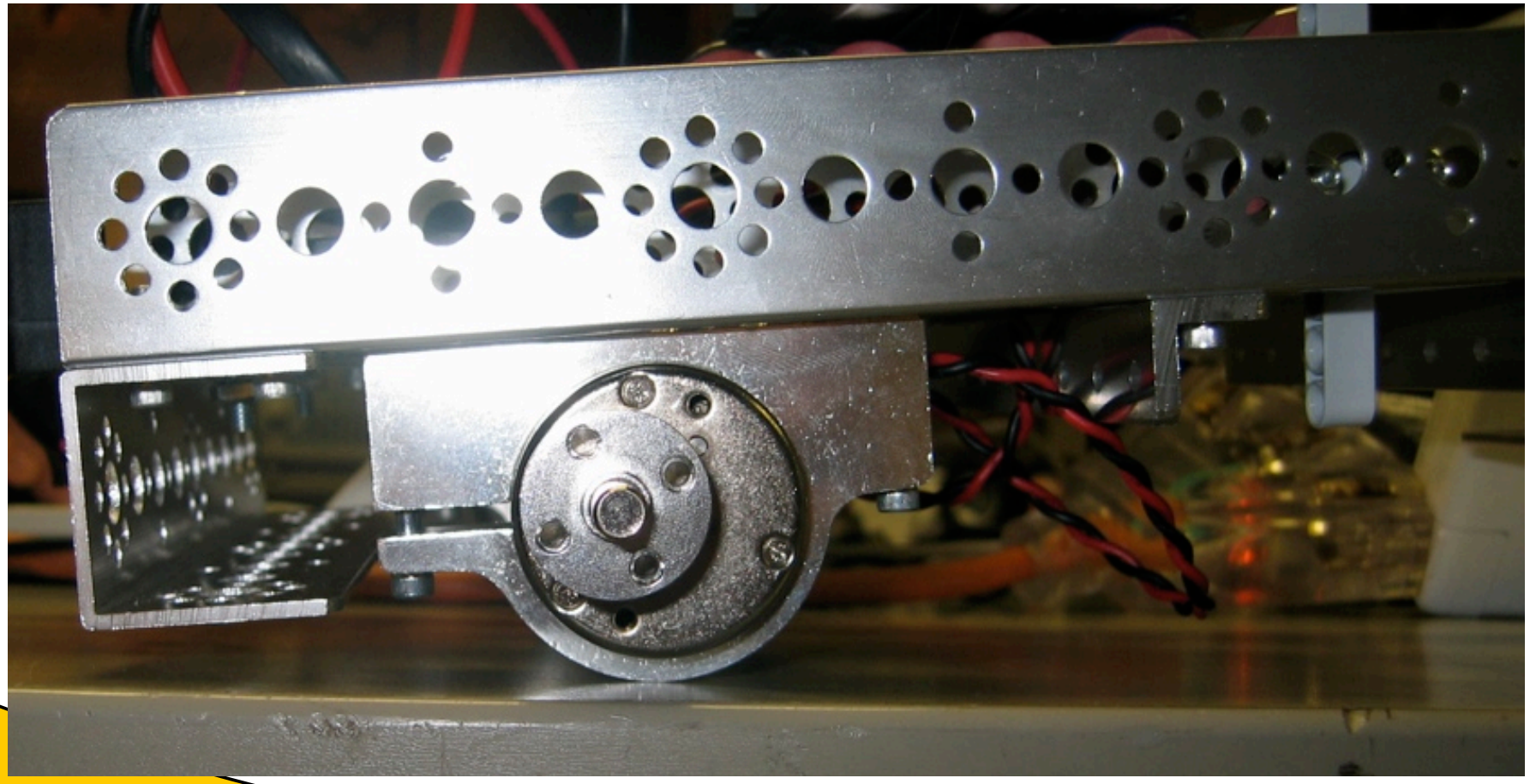

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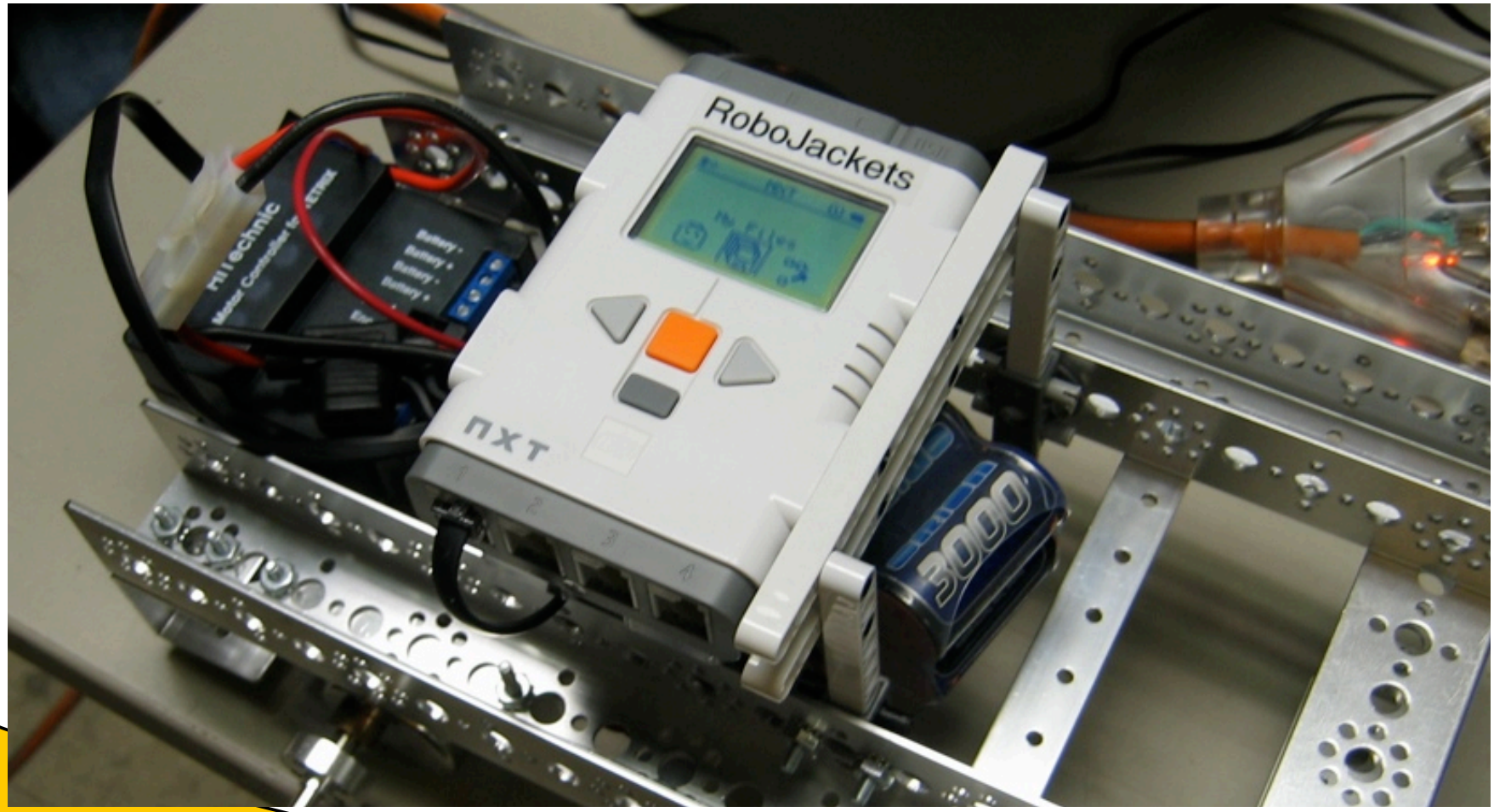

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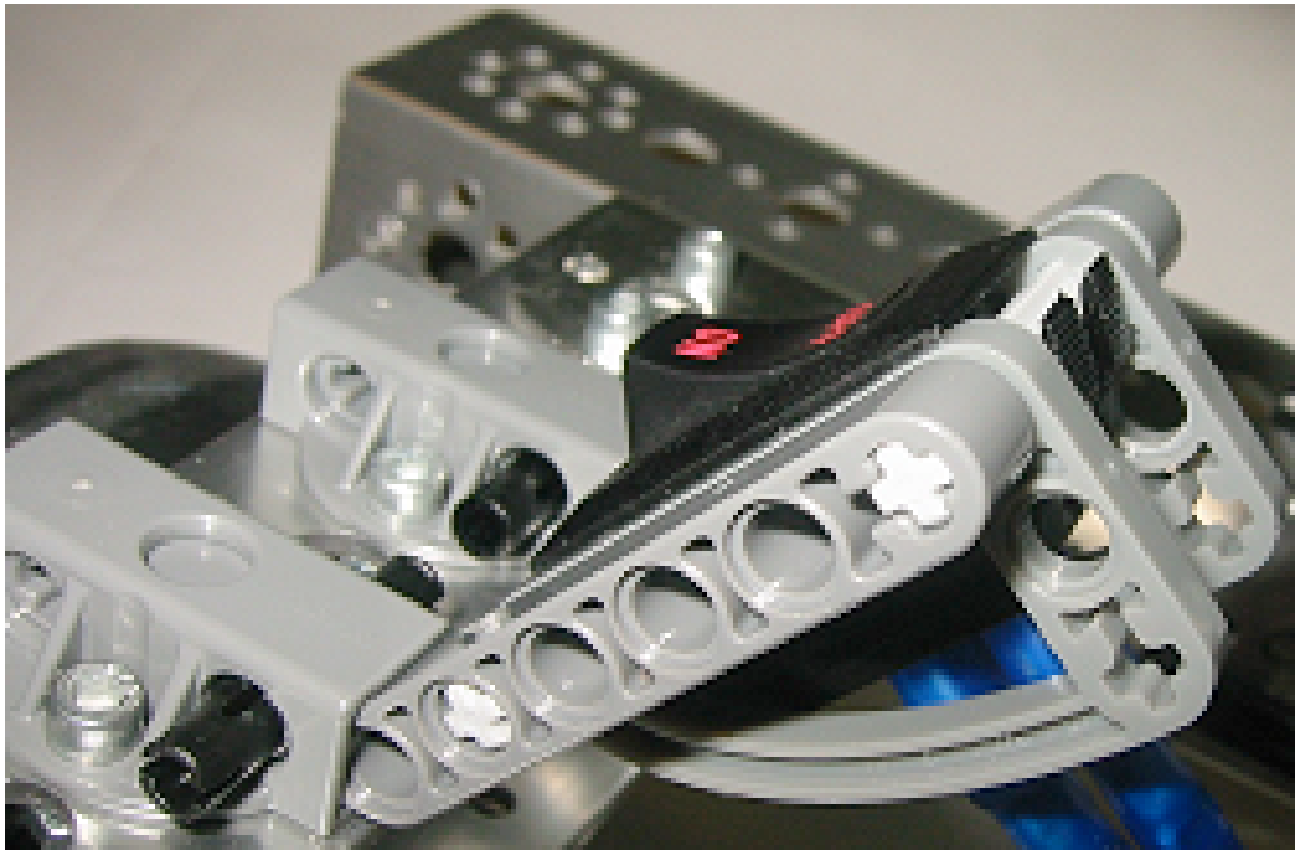


# COMPETITION SOFTWARE

# Software Overview

FTC Controller Station

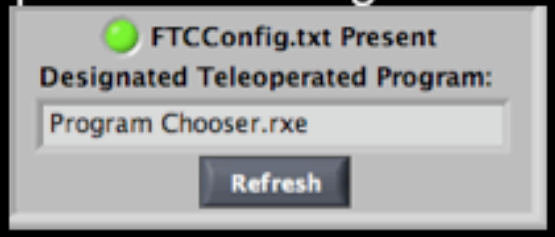
USB

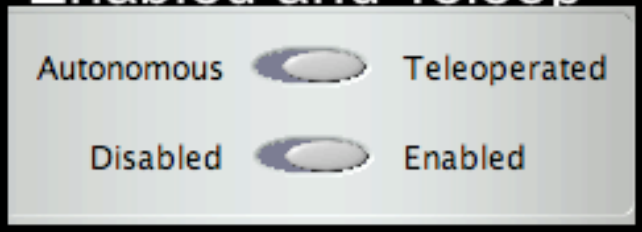
Bluetooth

YourOwn.vi

RoboJackets

1. FTC Controller Station.exe
   a) National Instruments -> Labview 2009 -> examples -> FTC Toolkit -> FTC Controller Station
2. Turn on Brick
   a) Turn on Blue Tooth
3. Controller Station
   a) Type NXT into NXT Name Box

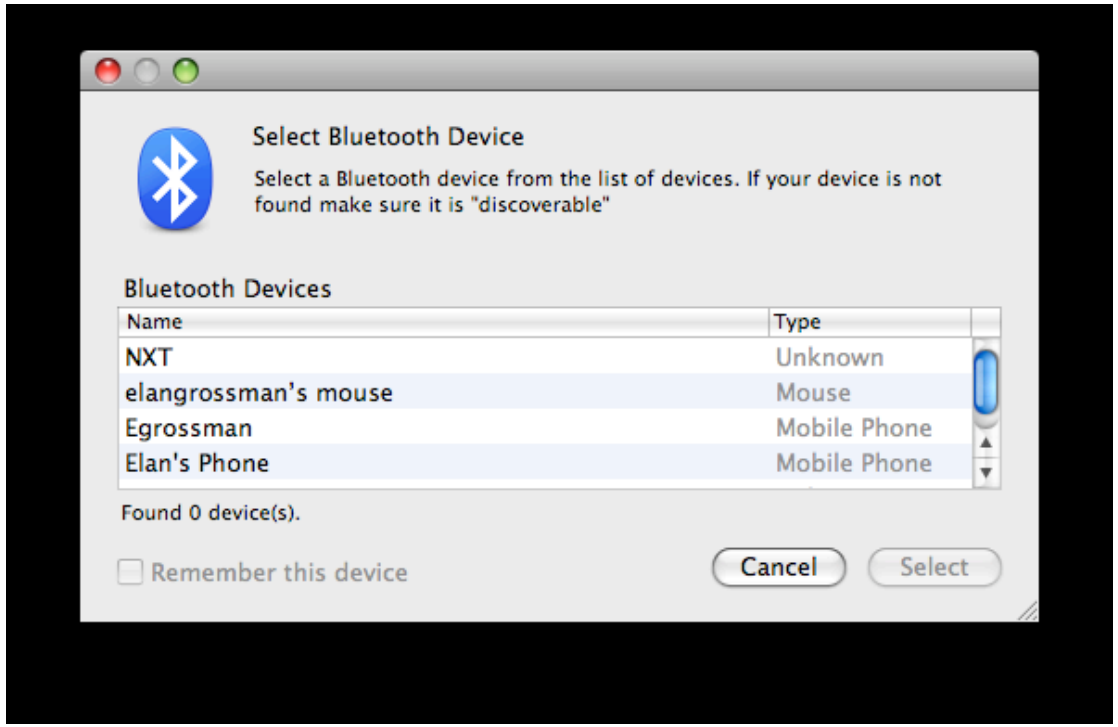
   b) Passcode is 1234
4. On Brick (Use orange button to enter)
   a) My Files -> Software Files -> Program Choose -> Program Chooser Run -> FTCBasicTeleop. ->->-> Orange button
   b) Press Refresh: Green Light 

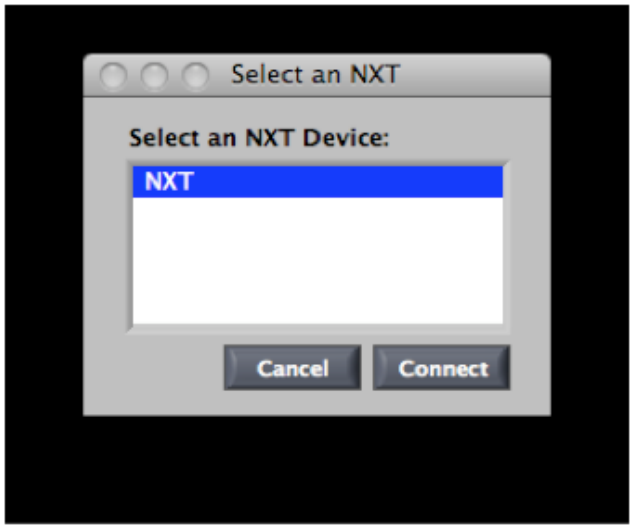
5. Enabled and Teleop 

FTC Controller Station
NXT Name:
Connect
Autonomous
Teleoperated
Disabled
Enabled
Disconnected
FTCConfig.txt Present
Designated Teleoperated Program:
Refresh
QUIT
Help
Controller 1
-1
<None>
Refresh List
x 0
y 0
0 x2
0 y2
1
2
3
4
Controller 2
-1
<None>
Refresh List
x 0
y 0
0 x2
0 y2
1
2
3
4

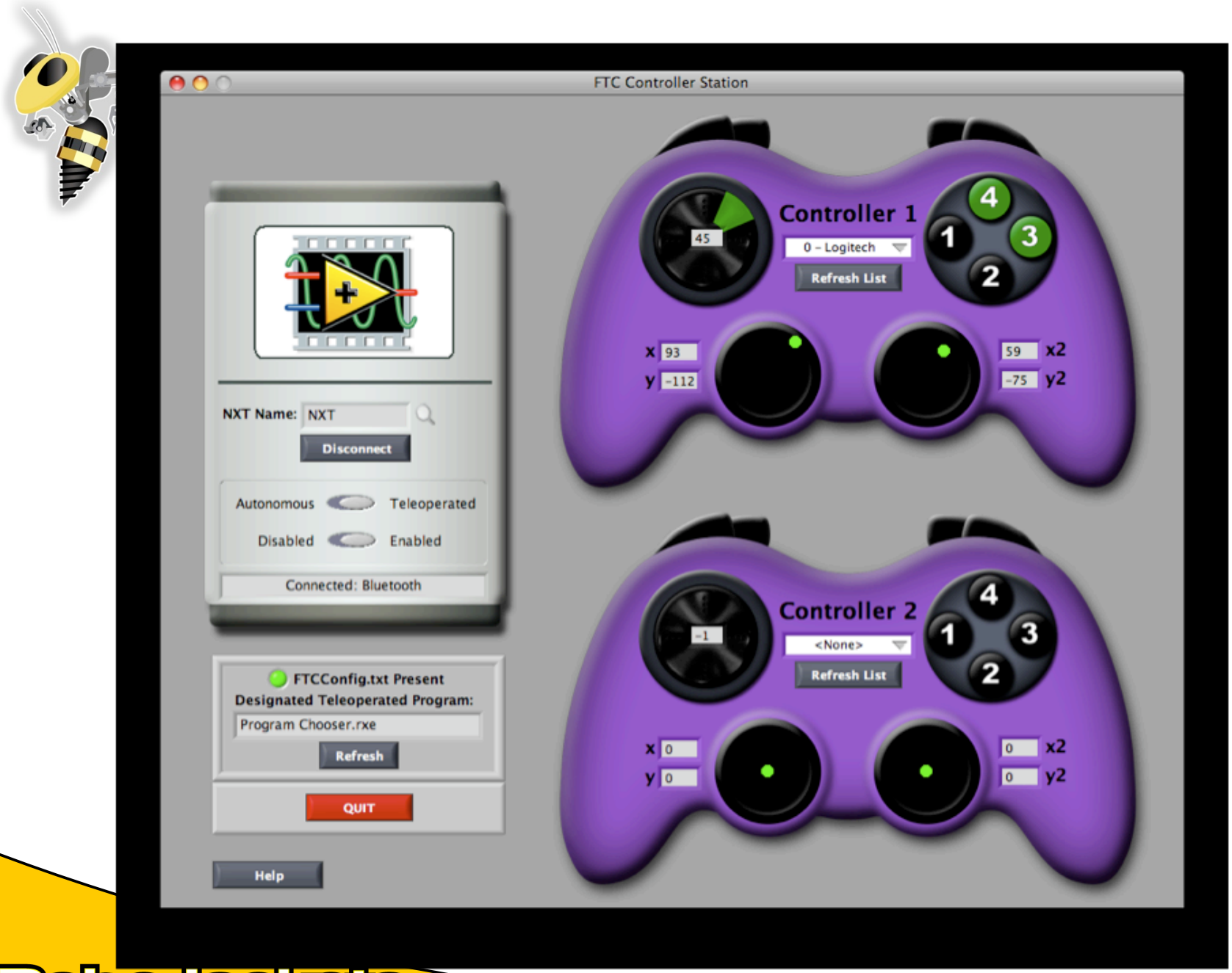
FTC Controller Station
NXT Name:
NXT
Connect
Autonomous
Teleoperated
Disabled
Enabled
Disconnected
FTCConfig.txt Present
Designated Teleoperated Program:
Refresh
QUIT
Help
Controller 1
-1
<None>
Refresh List
x
0
y
0
x2
y2
1
2
3
4
Controller 2
-1
<None>
Refresh List
x
0
y
0
x2
y2
1
2
3
4

# FTC Controller



FTC Controller Station
NXT Name:
NXT
Disconnect
Autonomous
Teleoperated
Disabled
Enabled
Connected: Bluetooth
FTCConfig.txt Present
Designated Teleoperated Program:
Program Chooser.rxe
Refresh
QUIT
Help
Controller 1
0 - Logitech
Refresh List
x
y
x2
y2
Controller 2
<None>
Refresh List
x
y
x2
y2

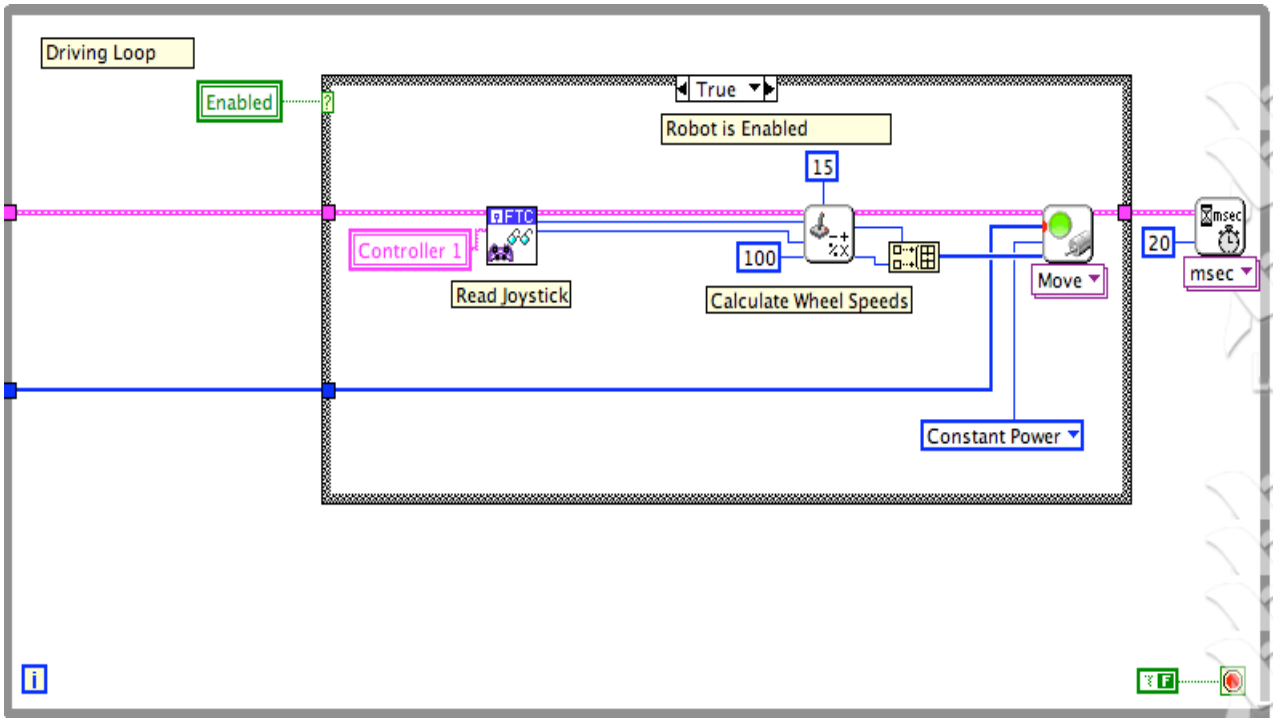

FTC Controller Station
NXT Name: NXT
Disconnect
Autonomous
Teleoperated
Disabled
Enabled
Connected: Bluetooth
FTCConfig.txt Present
Designated Teleoperated Program:
Program Chooser.rxe
Refresh
QUIT
Help
Controller 1
45
0 - Logitech
Refresh List
x 93
y -112
59 x2
-75 y2
Controller 2
-1
<None>
Refresh List
x 0
y 0
0 x2
0 y2

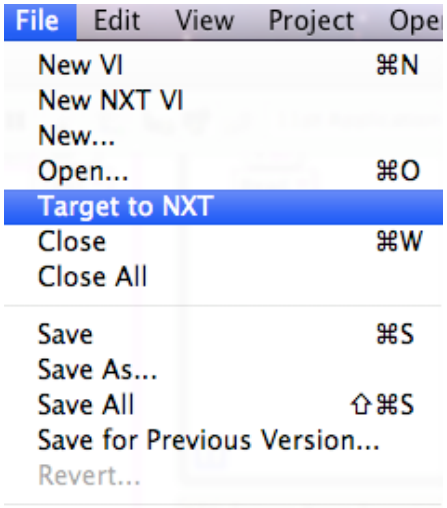
Open FTCTeleopBasic. Vi from National Instruments -> LabVIEW 2009 -> examples -> FTC Toolkit-> Templates

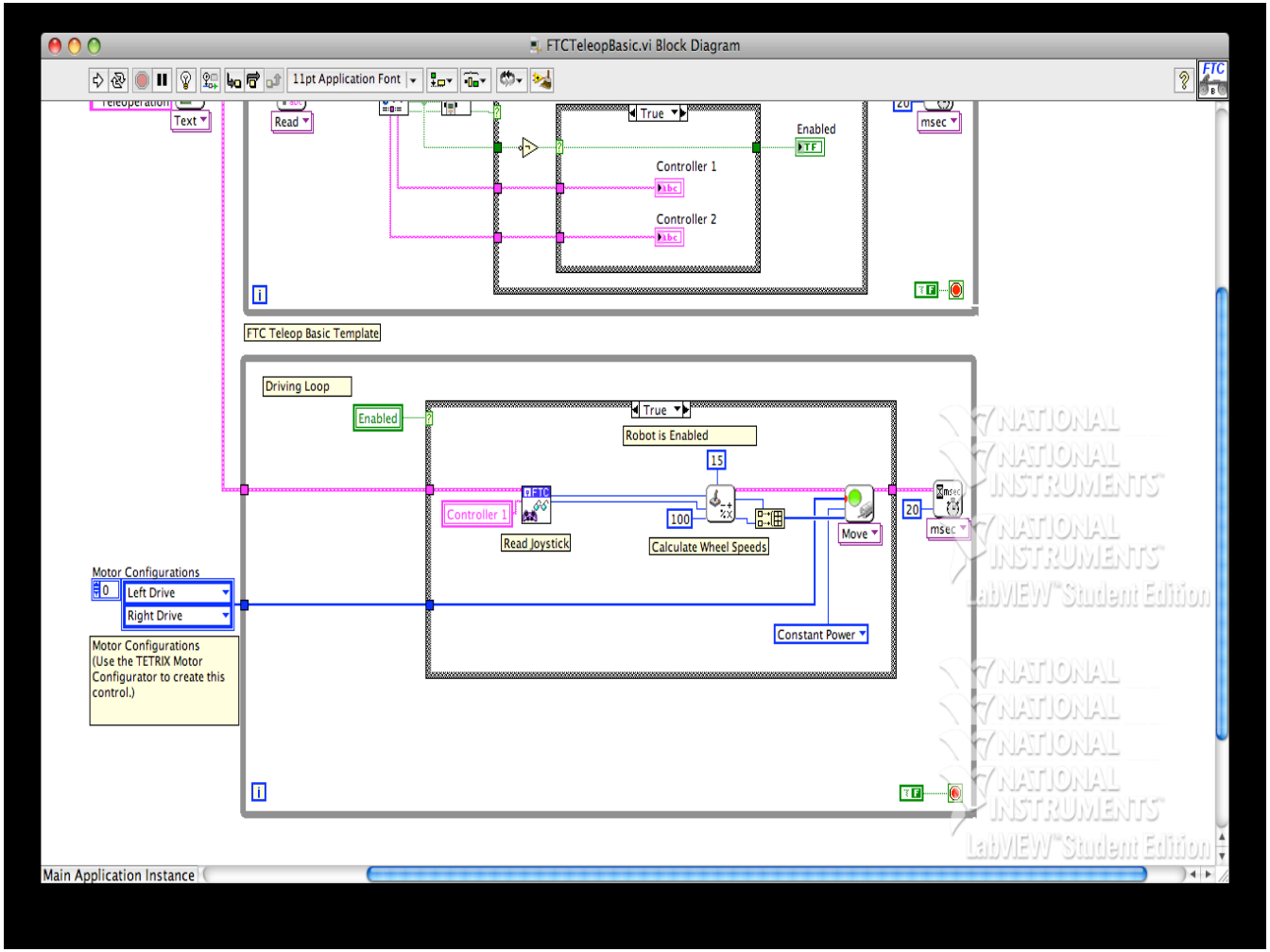
----Save as and "copy and replace" a new filename

2. Press ctrl+E to open block diagram. From File -> Target to NXT
3. Delete Purple wire from NXT output of the FTC Read Controller.vi to the Read Power from Joystick.vi
4. In Functions Palette, go to FTC Tools and click on the FTC Read Buttons.vi and then drop it to the right of the FTC Read Controller.vi
5. Wire from the buttons output of Read Controller.vi to Read Buttons.vi. Also, wire a NXT wire from the NXT output between the same VIs. Then wire between the output if Read Buttons.vi to the input of NXT of Read Power from Joystick.vi. We essentially just placed a VI between the two original VIs.
6. From the Palette again, go from NXT Programming to Comparison and click on the select.vi. Place this VI to the right of your Read Buttons.vi. If you need more room, select the right half of the case structure and hold down the right arrow till you have enough room.
7. Wire the Button 5 output from Read Buttons.vi to the "s" input of your Select.vi. Right click on the "t" input of the select.vi and create -> constant. Change that number to 30. Do the same thing for the "f" input, but make that number 100.
8. Wire the output of the Select.vi to the Throttle input of Read Power from Joystick.vi, deleting the constant 100 and the wire that previously existed.
9. Connect your NXT Brick via USB to your computer and click the arrow on the top right of Labview to compile your program.
10. Run your new program the same way we discussed earlier.

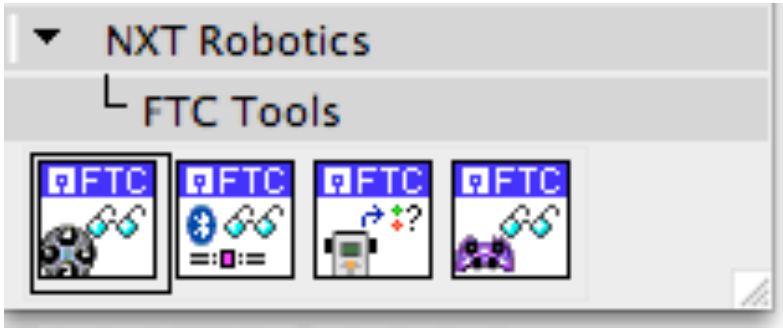
# Changing code

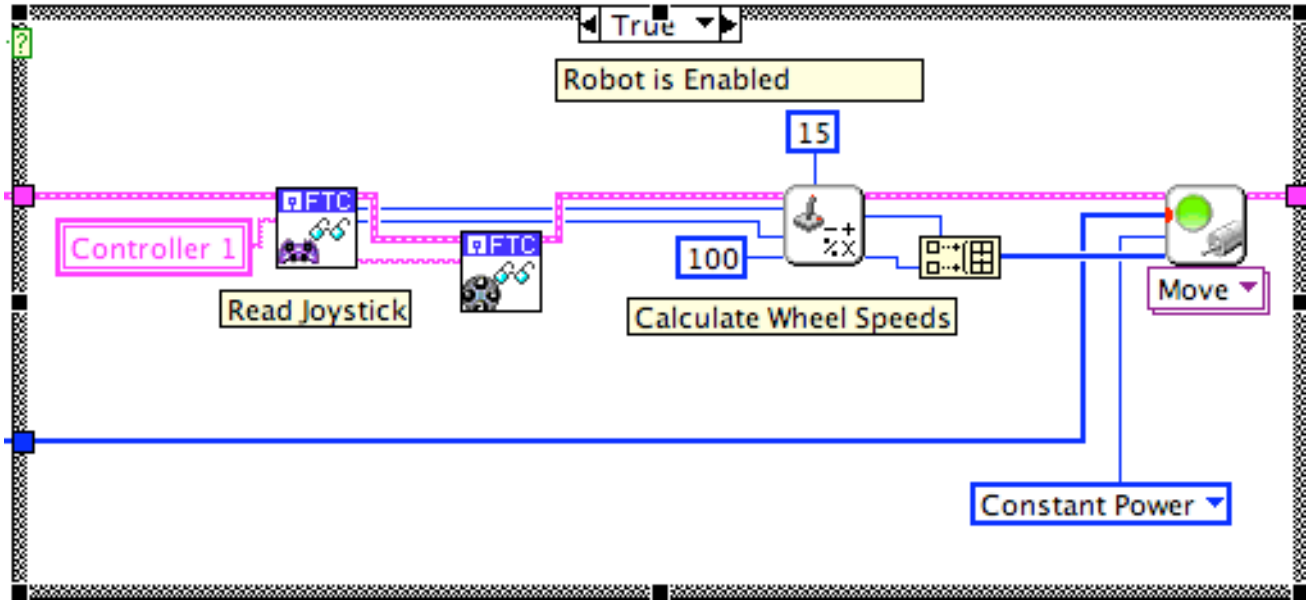


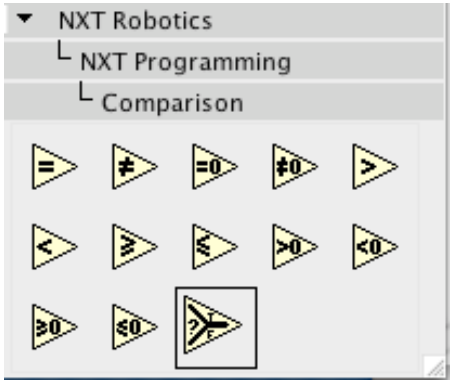


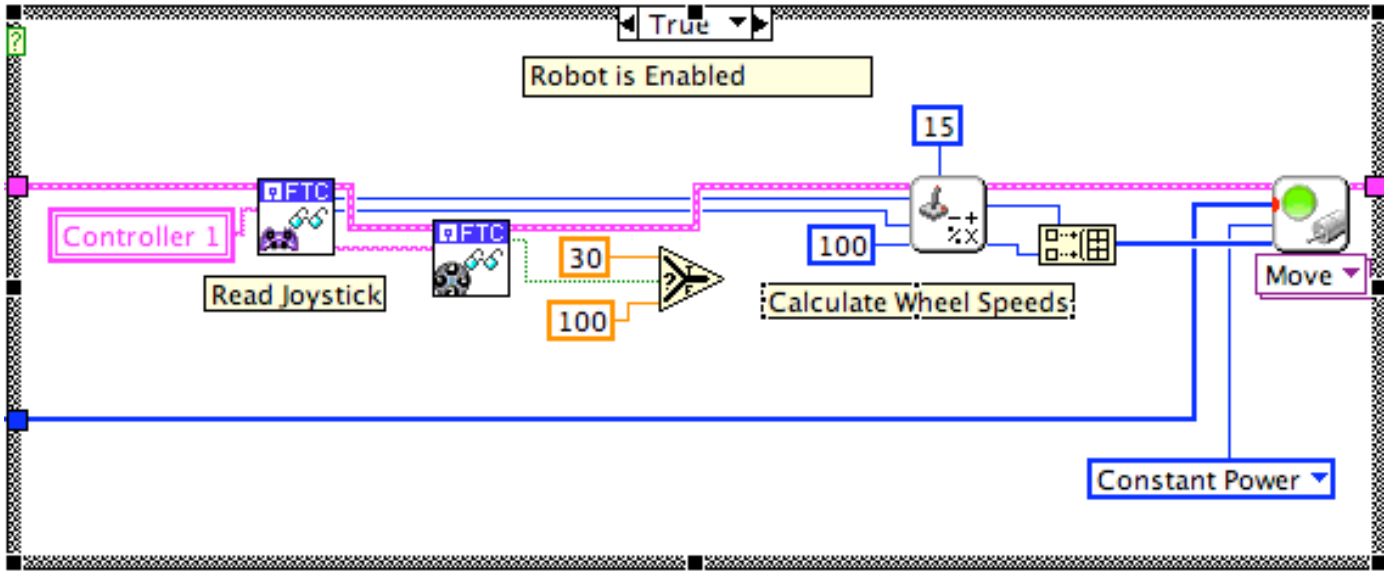



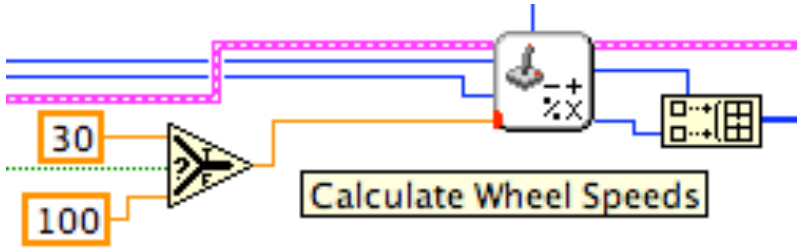

RoboJackets


NXT Robotics
FTC Tools
FTC
FTC
FTC
FTC


True
Robot is Enabled
15
FTC
Controller 1
FTC
Read Joystick
100
Calculate Wheel Speeds
Move
Constant Power


NXT Robotics
NXT Programming
Comparison


True
Robot is Enabled
15
FTC
Controller 1
FTC
Read Joystick
30
100
100
Calculate Wheel Speeds
Move
Constant Power


30
100
Calculate Wheel Speeds