Robotics Notes Team 980

**Git**

make: compiles

make deploys: compiles and deploys

tabnew (fileName): opens new tab of file/folder

tabn: next tab

tabp: previous tab

**Steps to update code (pull)**

1. get to right directory (frc980/2012/src/FRC980)
2. *git pull*
3. *git status* (not necessary but will show you the status of the file)
4. *git pull origin <branch>* (for 2012 *Cameron/newStructure* was the branch name)

**Updating “my” code (push)**

1. always *git pull* before attempting to push
2. *git status* (shows status)
3. *git add MyRobot.cpp* (tracks it) (the header and any additional files must be added as well if they are to be updated)
4. *git status* (checks it)
5. *git commit*
6. *git push origin <branch>* (cameron/newStructure)

**Reserved IP’s**

To assign IP’s the general rule to use an IP is have it above 6 and not 10 (i.e. 10.9.80.**7** is ok and 10.9.80.**11** is ok)

10.9.80.1 Bridge

10.9.80.2 cRIO

10.9.80.3 --

10.9.80.4 --

10.9.80.5 Driver Station Wired

10.9.80.6 Driver Station Wireless

10.9.80.10 2CAN

**UCPP Address**

Update Jaguar Firmware

1. Connect usb to the serial cable -> serial cable to CANbus

2. Open BDC Com software

3. File->update firmware->browse files (files <Jaguar 101\* and BlackJaguar-101>must be in same folder as the exe)

**Assigning jaguar ID’s:**

1. Connecting new ones: status disconnect, then status connect

2. one or two jaguars on the bus. If you have to update the black, **ONLY** have the black connected to the CANbus via the serial cable. If your updating a grey jaguar then have a CANbus cable connecting the grey to the black **DO NOT** connect any extra jaguars onto the CANbus that you are not updating.

hardware version 1: indicates grey jaguar

hardware version 2: indicates black jaguar

3. Set the board ID to whatever you want (for 2011 we had 20(black), 15, 14, 13, 12, 11) then hit assign

**Firmware fail (Jaguar won’t turn on)**

1. If the jaguar has no status light, do File->Recover Device

**Wire Gauges**

Application Minimum Wire Size

|  |  |
| --- | --- |
| 40A circuit | 12 AWG  (2.052mm) |
| 30A circuit | 14 AWG  (1.628mm) |
| 20A circuit | 18 AWG  (1.024) |
| Between the PD Board and the Analog and/or Solenoid Breakouts if a common power feed is used | 18 AWG  (1.024) |
| Between the PD Board and the Analog and/or Solenoid Breakouts if the individual power feeds are used | 20 AWG  (0.8128mm) |
| Between the PD Board and the cRIO | 20 AWG  (0.8128mm) |
| Between the PD Board and the wireless bridge  Between the PD Board and 5A custom circuits | 20 AWG  (0.8128mm) |
| Pneumatic valves | 24 AWG  (0.5106mm) |

**Code**

1. Coding Syntax

~: in front of method, deconstructor. Del everything.

%f = float variable for printf(“words: %f”, x) statements

2. Files

MyRobot.h

MyRobot.cpp

Jaguars (installation)

1. Wires: white/green: out

red/black: in

Board

1. Draw up all the pieces with their sizes, and then lay it all out. After and only after the layout is set, may you actually mount electronics onto the electronics board.

2. Breakers must be placed in to supply power.

Network

1. **Connecting to Robot:**

2. Select your *IP*: 10.9.80.24 (24 is the number I choose, reference “Reserved IP’s” to see which IP’s are available for use)

3. *Subnet Mask* Default: 255.0.0.0

4. G*ateway* should default to your IP but in case it doesn’t, it should be the same as the IP you selected.

Awesome Stores

Apex electronics

All Electronics

Notes

\* Version 101 is for 2012