

Ada Mindstorms Installation Instructions

Author: David Wang

I. IMPORTANT NOTES:

- 1.) The USB IR Tower has been known to cause Windows computers to crash if plugged in for prolonged periods. It can also prevent Windows XP from starting up correctly after a student's logon.
This problem is caused when a HIGH POWERED USB device (the IR tower) causes an over current in the USB hub. If temporarily unplugging the IR Tower does not remedy the problem, try another USB port, try unplugging all other USB devices, or try a completely different computer.
- 2.) No matter where adagide is installed, the five files in the fourth unzip file must be unzipped into two locations: in the folder called ".../adagide" and in a the folder: ".../adagide/NQC"
- 3.) This set of installations is designed for WINDOWS XP and may or may not work on other Operating Systems)
- 4.) The RCX requires batteries to preserve its memory. Removal of the batteries for more than ~1 minute will result in the erasing of not only the program in the RCX, but the firmware. You MUST reinstall the firmware before Adagide will talk to the RCX (see step 15)
- 5.) The IR Tower and the RCX should be no farther than a meter for reliable data transfer. The two dark plastic faces should be pointed at each other.

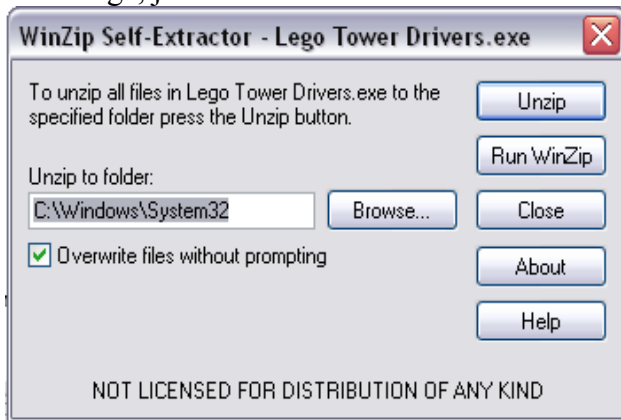
II. DOWNLOADING THE FILES:

- 1.) Go to the Unified website and follow the links to download the following files:

"ZERO - Lego Tower Drivers.zip"
"FIRST - gnat-3.15p-nt.exe"
"SECOND - adagide-install.exe"
"THIRD - ada2nqc-install.exe"
"FOURTH - nqc-win-3-0-a2.zip"
"FIFTH - bricxcc_setup_3377.exe"
"SIXTH - firm0328.lgo"

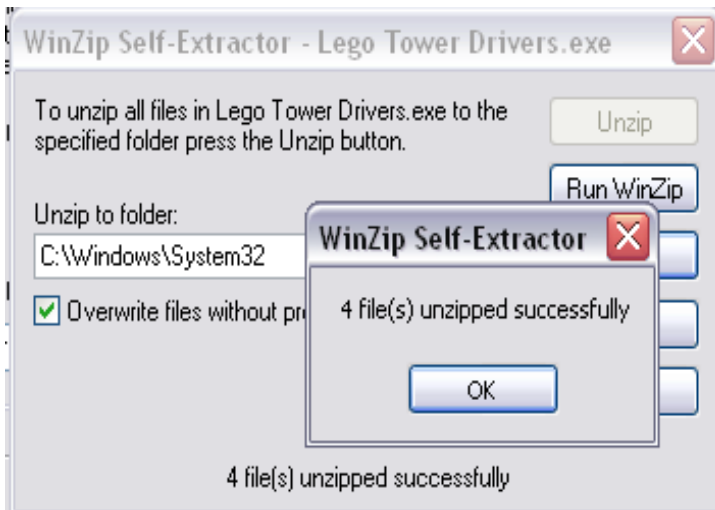
III. INSTALLING THE LEGO TOWER:

- 2.) Open the file “**Lego Tower Drivers.zip**.” Win zip self-extractor may give you a message, just click OK. You should now see the following screen:



Make sure the directory it is going to install to is “C:\Windows\System32” and click UNZIP.

- 3.) The next screen you should see will confirm a successful unzipping:



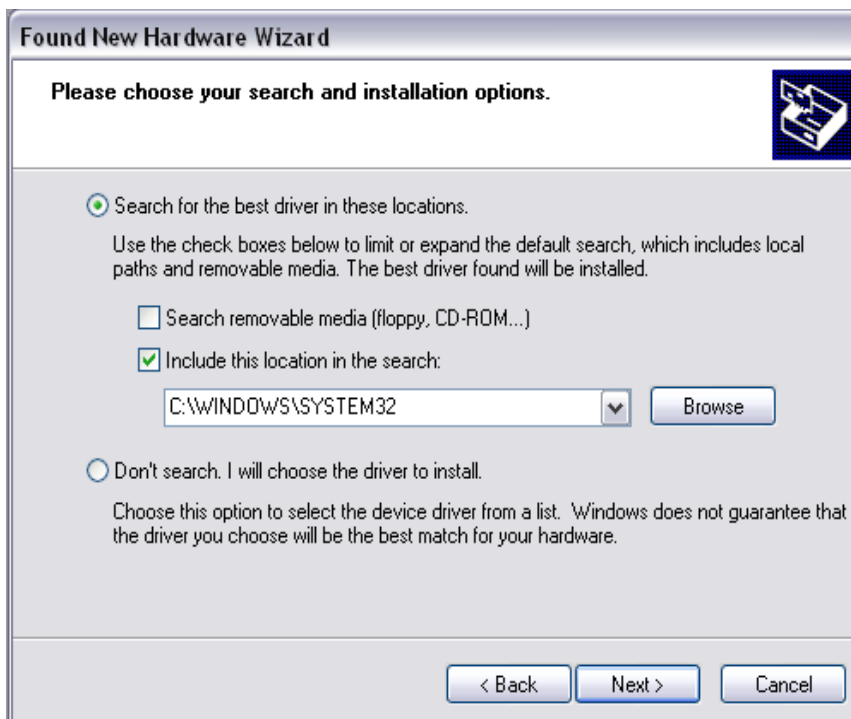
Click OK on the smaller window and then click CLOSE on the self-extractor window.

- 4.) Plug the USB IR Tower into the USB port that you want to ALWAYS use the IR Tower on. Wait a while for the computer to detect the tower. If this takes longer than 5 minutes, you should try unplugging and plugging the tower or restarting the computer.

- 5.) If all is well this next screen will appear. Select “Install from a list or specific location (Advanced).” Hit NEXT

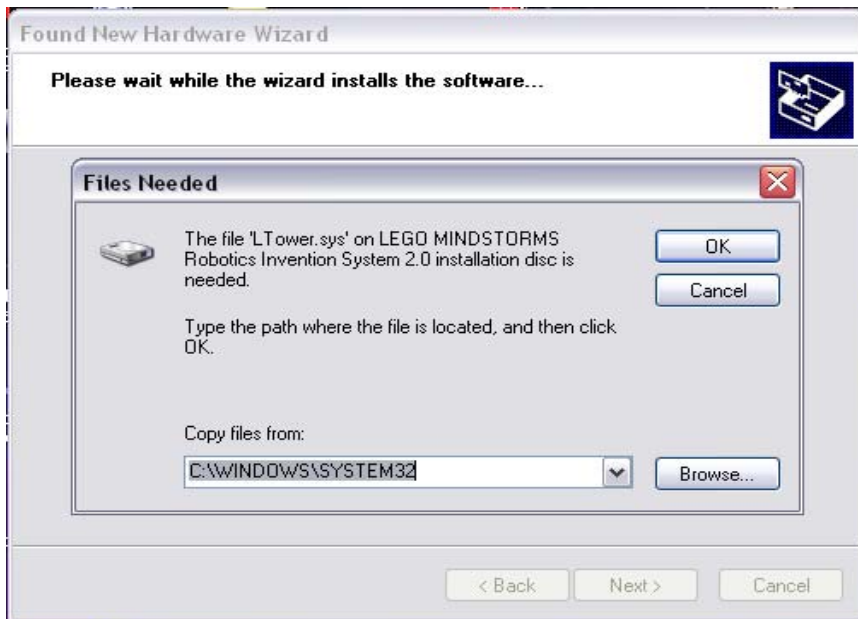


- 6.) On the next screen, select “Include this location in the search” and select or browse to the directory “C:\Windows\System32”

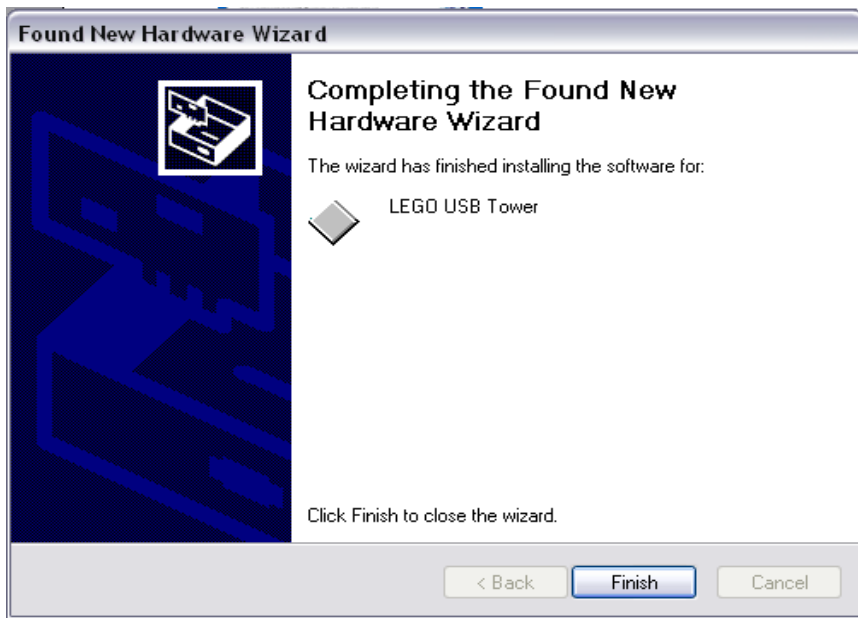


Hit NEXT on the installation screen

- 7.) Another window asking you to locate the needed files might appear, if so, select “C:\Windows\System32” again and click OK.



- 8.) Wait for the installation to finish, repeat step 7 as needed. If a screen like this comes up, you're done.



Hit Finish.

The LEGO USB IR Tower should now have drivers installed for ONLY this USB port.

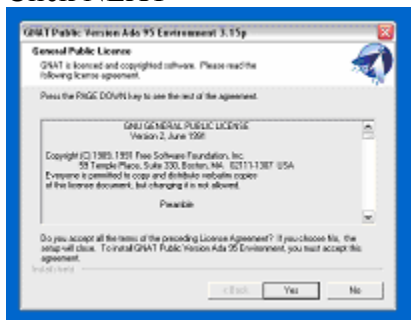
- 9.) Repeat the steps above for installation of the USB IR Tower on other USB ports.

IV. INSTALLING GNAT 3.15 (The Ada Libraries and Run Time Environment)

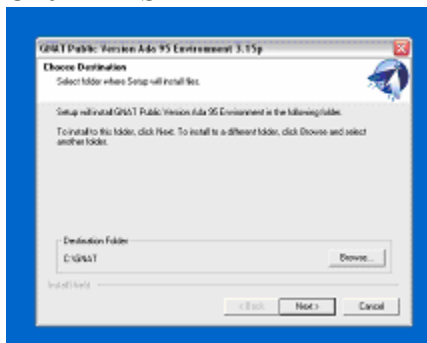
10.) Now double click “**gnat-3.15p-nt**”, you should see this screen:



Click NEXT



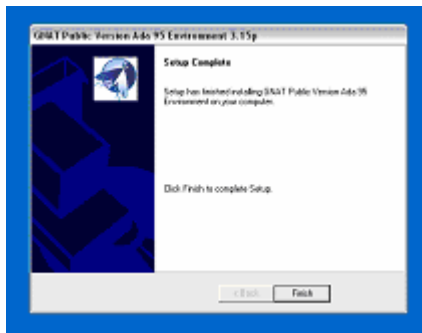
Click “YES”



Click NEXT



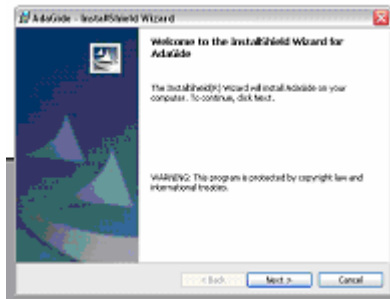
The package will now unzip and complete installation. This might take 2-3 minutes.



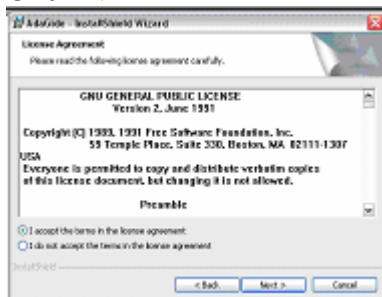
Click Finish

V. INSTALLING ADAGIDE (The Ada Program Editor)

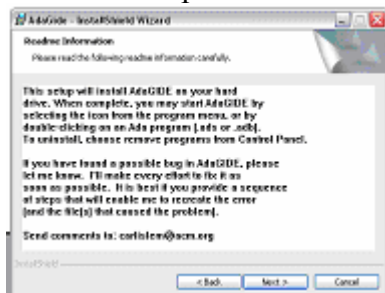
11.) Now double click “**adagide-install.**” The package will unzip.



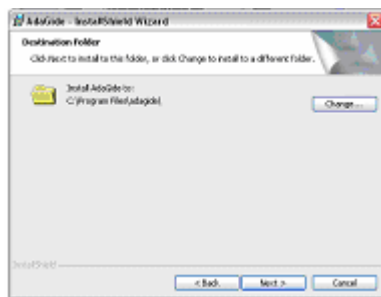
Click NEXT



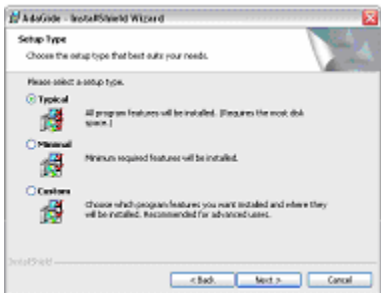
Select “I accept” and click NEXT



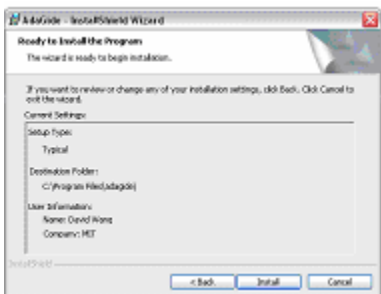
Click NEXT again



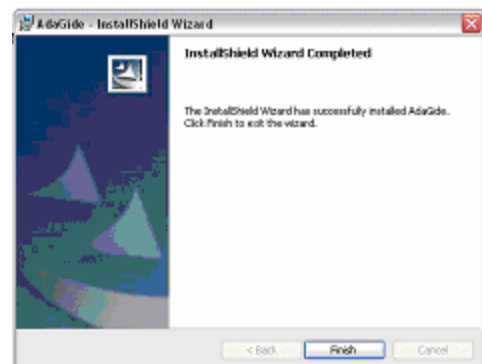
Click NEXT again



On the next screen select “Typical”
Then click Next



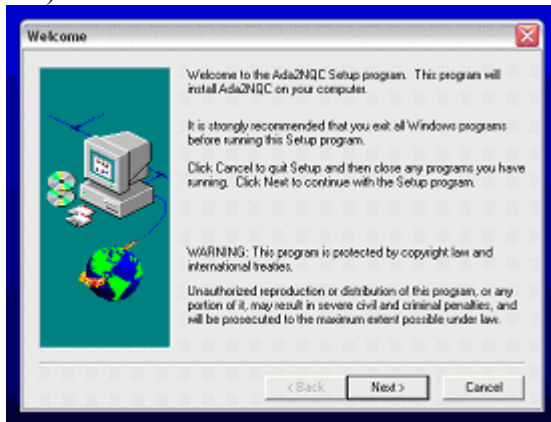
Click INSTALL



Click FINISH

VI. INSTALLING ADA2NQC (A Program Used by AdaGide to Convert Compiled Ada Code to Not Quite C, the Language of the RCX)

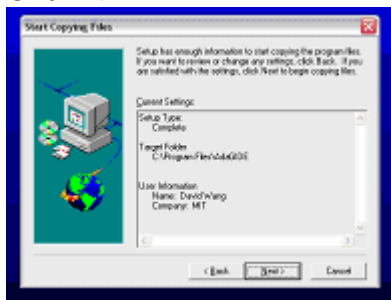
12.) Double click on the Third install file: “ada2nqc-install”



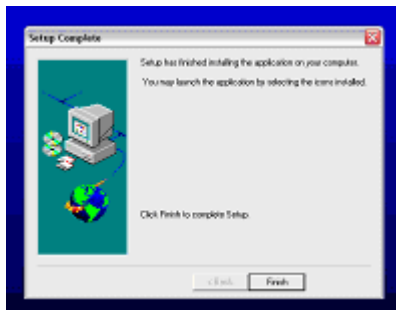
Click NEXT



Click NEXT



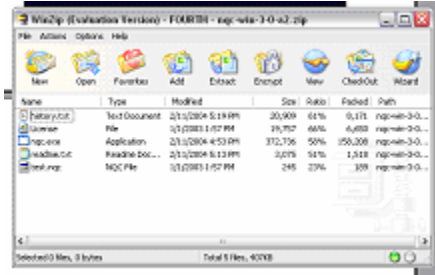
Click NEXT



Click FINISH

VII. INSTALLING “NQC” (Updates the Older Version of NQC to allow interfacing to USB enabled IR Towers)

13.) Double click on the fourth file: “**nqc-win-3-0-a2.**” Hopefully the computer has WINZIP software on it. If it does not you will need to install it. If it does, you will see:



14.) You will want to select all the files in the screen and drag them or unzip them into the following directories:

“C:\Program Files\adagide”

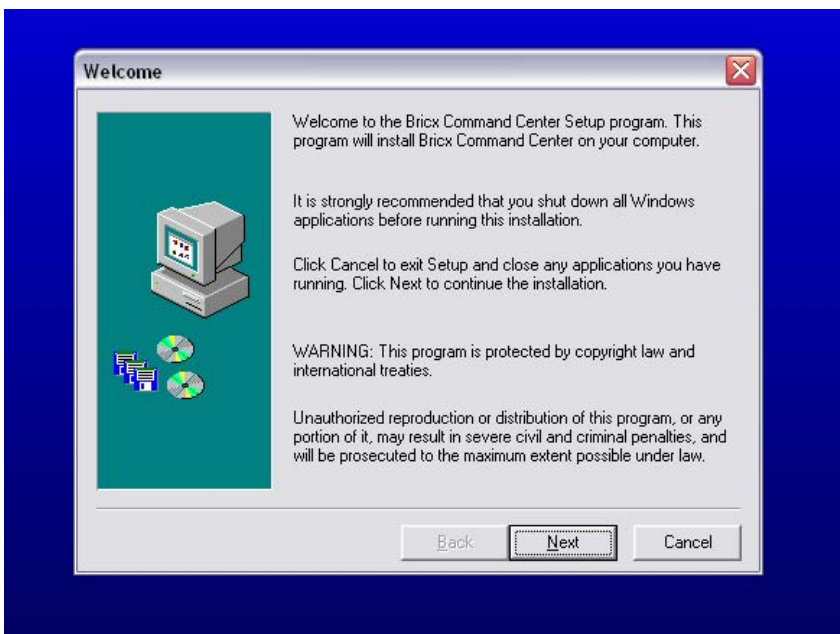
AND

“C:\Program Files\adagide\NQC”

Complete copies of the five files should be put in each directory

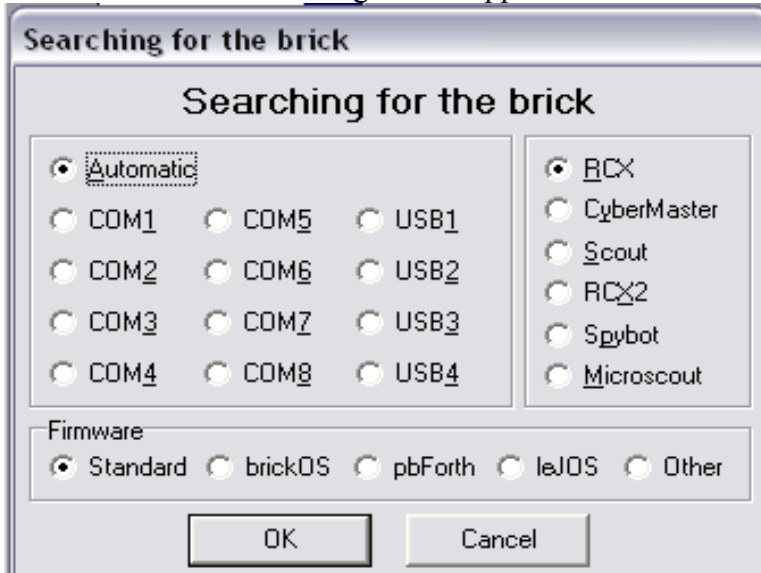
VIII. INSTALLING FIRMWARE VIA BRICX

15.) Double click on the fifth file: “**bricxcc_setup_3377.exe**”. The following window should appear:



16.) Go ahead and keep hitting NEXT until the installation completes.

17.) Once Bricx is installed, run it (Start->All Programs->BricX Command Center). A window similar to following should appear:



Select "Automatic" and hit OK. If all is well, your tower and RCX will be detected and Bricx will run.

18.) Once Bricx is running go to: "tools->download firmware." A window will show up asking you to locate where you saved the sixth file: "**firm0328.lgo.**"

19.) Locate "firm0328.lgo," turn on the RCX and point the IR Tower at the RCX. Click OPEN. The firmware will take about 4 minutes to download and then another minute to install. During this process, the RCX and the tower should not be disturbed until the "Download Firmware, Please wait." Window disappears.

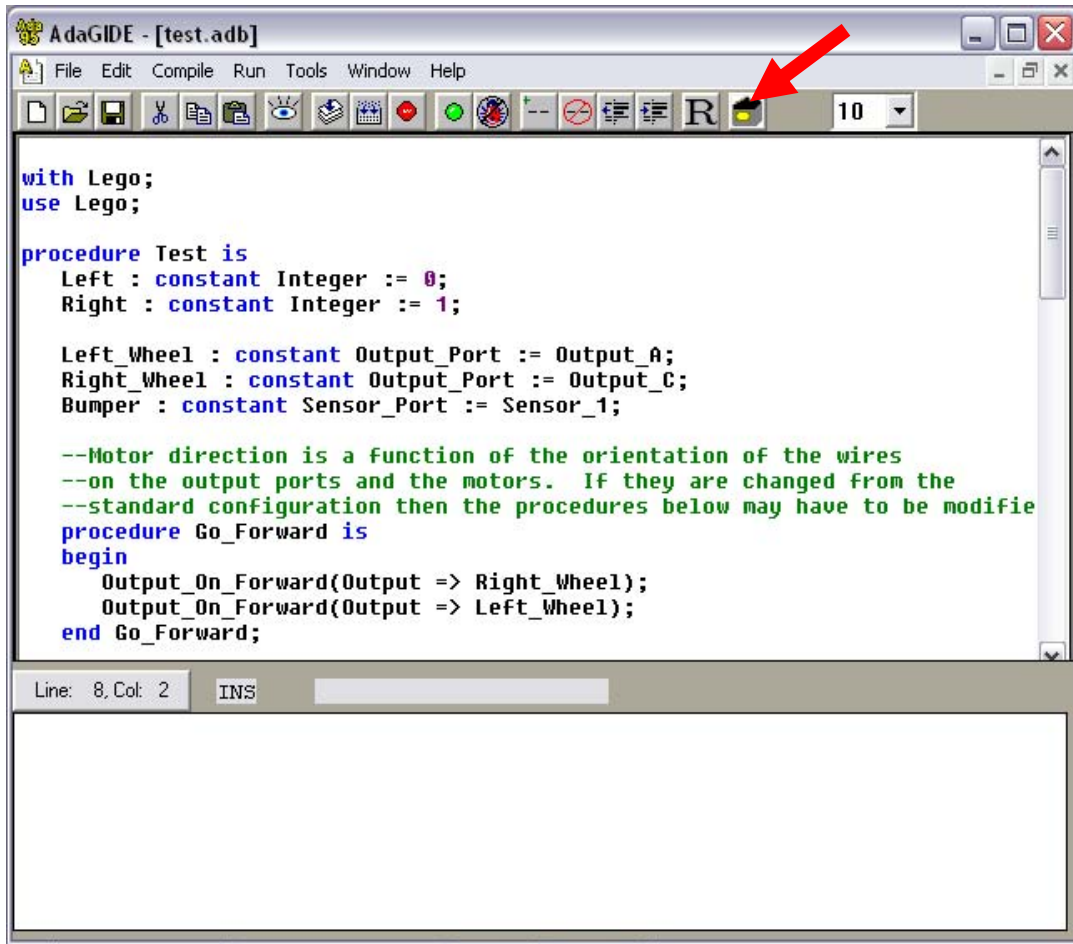
20.) Close the Bricx program.

X. THE TEST RUN

21.) You should now RUN Adagide

22.) Go to File -> Open, and Select: "test.adb"

23.) Now select Compile -> Select Target and Select: “LEGO MINDSTORMS” using the radio buttons. Click OK



You will notice the little touch sensor in the upper corner of Adagide

24.) Compile – Push F2

25.) Build – Push F3

26.) Turn on the RCX and makes sure the IR tower is plugged into the correct USB port and pointed at the RCX. Click RUN

If everything was installed correctly, there will be a download triangle and a counter on the RCX that will start counting up. The RCX will beep when the installation is done and that's it.