This guide covers the process of downloading a program into the Robot Controller. This guide also covers diagnosing and correcting problems related to the Parallax BASIC Stamp software setup and COM ports. If you are still having difficulty after using this guide, please call the Innovation First hotline at 903-454-1978.

The Robot Controller (RC) comes loaded with a default program that will handle most robot control needs. Reprogramming the Robot Controller is not required. If, however, more sophisticated control of the robot is desired, then a custom program can be written and downloaded in to the Robot Controller.

Before you begin you will need the following:
- ✓ An Innovation First Control System (setup and communicating properly)
- ✓ Basic Stamp Editor version 1.091 Beta from Parallax (or our website)
- ✓ DB9 male to DB9 male pin-to-pin cable (provided in the kit)
- ✓ The "2000Default Program.bsx" file available at www.innovationfirst.com
- ✓ A Windows 95 or 98 computer with one available COM (RS232) port

Step 1 – Make Sure Your Control System is Communicating
Before programming, make sure your Operator Interface (OI) and Robot Controller (RC) are powered ON and communicating. Both the OI and RC should have a solid "Power On" indicator, a flashing "Search/Tx" indicator, and a flashing "Valid Rx" indicator. If your control system is not communicating as described, refer to the 2000 Control System Users Manual available at our website.

The Robot Controller downloading steps are as follows :
1. Power ON the Robot Controller.
2. Connect a DB9 Male-Female Pin-to-Pin cable from the PROGRAM port on the Robot Controller to the computer's serial port.
3. Set the Robot Controller Program Jumper to USER.
4. Run Parallax, Inc. BASIC Stamp Version 1.091 beta.
5. Load the desired program. You may want to start with the "2000DefaultProgram.bsx" first.
6. Press CTRL-R to download the program.
7. Press RESET on the Robot Controller.

Was the program download successful?
After downloading a program into the RC you should see the words "**Tokenize/Download Successful**" at the bottom of the BASIC Stamp program window. After pressing "Reset" on the RC (or "Robot Reset" on the OI), you should see the following indications on the RC:
- ✓ Flashing "Basic Run" indicator
- ✓ "Basic Init Err" indicator should be OFF
- ✓ "Basic Run Err" indicator should be OFF

If the BASIC Stamp software indicated an error or the Robot Controller indicates an error, continue to the next page.

<u>Diagnosing RC Programming Problems:</u>

<u>Problem</u>: "**EEPROM Verify Failure**" error indicated on the BASIC Stamp software.
<u>Resolution</u>: Be sure the program jumper on the Robot Controller is set to "USER". The program jumper is to the right of the "Team Number" dipswitch.

<u>Problem</u>: "**BASIC Stamp IISX detected but not responding . . . Check power supply.**" error indicated on the BASIC Stamp software.
<u>Resolution</u>: The most common cause of this error is the Robot Controller does not have power applied (the "Power On" indicator must be illuminated). An incorrect COM port setting may also cause this error. See page 3 on setting the COM port.

<u>Problem</u>: "**BASIC Stamp IISX not responding . . .**" error indicated on the BASIC Stamp software.
<u>Resolution</u>: The most common cause of this error is a not connected or mis-connected program cable. Make sure a DB9 Male-Female Pin-to-Pin cable is connected between the PROGRAM port on the Robot Controller and the computer's serial port.

<u>Problem</u>: The Parallax Software report an error "**. . . found but not responding . . .**" when programming the Robot Controller?

<u>Resolution</u>: Be sure you are not using the Microsoft NT operating system on your computer. Parallax software will not work on NT. Also, be sure you have the Basic Stamp Editor version <u>1.091 Beta</u> from Parallax. You can download it from our "Links" page of our website.

Setting the COM port:

Problem: If the COM port is set incorrectly you may get a "**BASIC Stamp IISX detected but not responding . . . Check power supply**." error, or you may also get a "**Tokenize Successful/Download Failed"** error shown at the bottom of the STAMP Basic Editor window.

Error

BASIC Stamp IISX detected but not responding on COM1!

Check power supply.

OK

30: 1   Tokenize Successful, Download Failed
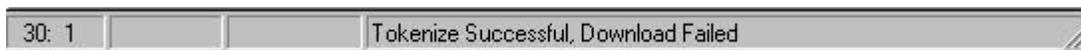
Resolution: The following procedure will help you determine the correct COM port setting. The problem is usually caused by the "Default COM Port" being set to "AUTO". The BASIC Stamp Editor may incorrectly select a modem or other hardware instead of the port connected to your Robot Controller. Refer to the instruction below for setting the COM port. If you are unsure which COM port is correct, we suggest you try each port one at a time. Select the first COM port listed in the COM port pull-down, then try to download the default program. Repeat until successful. If you are still having difficulty, please call the Innovation First hotline at 903-454-1978.

1) Launch the BASIC Stamp Editor
2) In the "Edit" pull down menu, select "Preferences…"
3) Select "Edit Operations" tab
4) Set "Default Stamp Mode" to BS2SX
5) Set "Default Com Port" correctly (or try each one if your are not sure)
6) Click the "OK" button
7) Try to download the default program.

Preferences

| Debug Appearance | Debug Function | Debug Port |

Editor Appearance   Editor Operation

Stamp Mode and Ports

Default Stamp Mode: BS2SX

Default Parallel Port (BS1):   LPT1:

Default Com Port (BS2/2SX):   COM1

Default BS2SX Download Mode: Modified

Directories

BS1 Directory: Browse…

BS2 Directory: Browse…

BS2SX Directory: Browse…

Files

Maximum Files in History: 5

Restore Defaults

OK   Cancel

3

4

5