

BETTERBOTS

Institute for Personal Robots in Education

FLUKE II

SCRIBBLER UPGRADE MODULE

QuickStart Guide

IPRE Personal Robot

The IPRE personal robot for introductory computing is a Scribbler2 robot augmented with the IPRE Fluke2 robot upgrade module to provide a camera, wireless Bluetooth data link, and a student-friendly programming interface.

You Will Need:

6 AA Batteries (rechargeable batteries work well)

Desktop PC with Bluetooth

You will need a Bluetooth-enabled computer. If you don't have Bluetooth built in or want to extend the range, you'll need a Class 1 USB Bluetooth adapter. The Fluke2 uses Bluetooth v2.1 – be sure that your Bluetooth drivers are up-to-date before attempting the installation process.

Myro

To use the IPRE robot, you will need to run the installer for the programming language Python and the IPRE Myro Python library. Myro provides a student-friendly Python interface to the IPRE robot. Both are freely available on the BetterBots website at <http://www.betterbots.com/cshop/support>.

Getting Started

1. Download the Myro software to your computer from <http://www.betterbots.com/cshop/support>. Follow the instructions on the website to install the software.
2. Insert 6 AA batteries into the Scribbler.
3. Plug Fluke2 into Scribbler's serial port.
4. Turn on power switch on Scribbler. Fluke2 takes 10-15 seconds to boot up. Boot up is complete when you hear the second set of beeps and the red CPU Load Indicator LED stops flashing.
5. Connect to the robot via Bluetooth and note the serial port, e.g., COM40, it connects to. Fluke2 does not require a PIN/Passkey. If your Bluetooth software prompts you for these, update your PC with the drivers that came with your Bluetooth.
6. Double-click the "Start Python.py" icon on your desktop.
7. Enter **from myro import *** in the Python window.
8. Enter **upgrade('scribbler')** to install the IPRE firmware. Enter Bluetooth serial port (from step 5) when prompted.
9. Enter **initialize()** and enter Bluetooth serial port again when prompted.

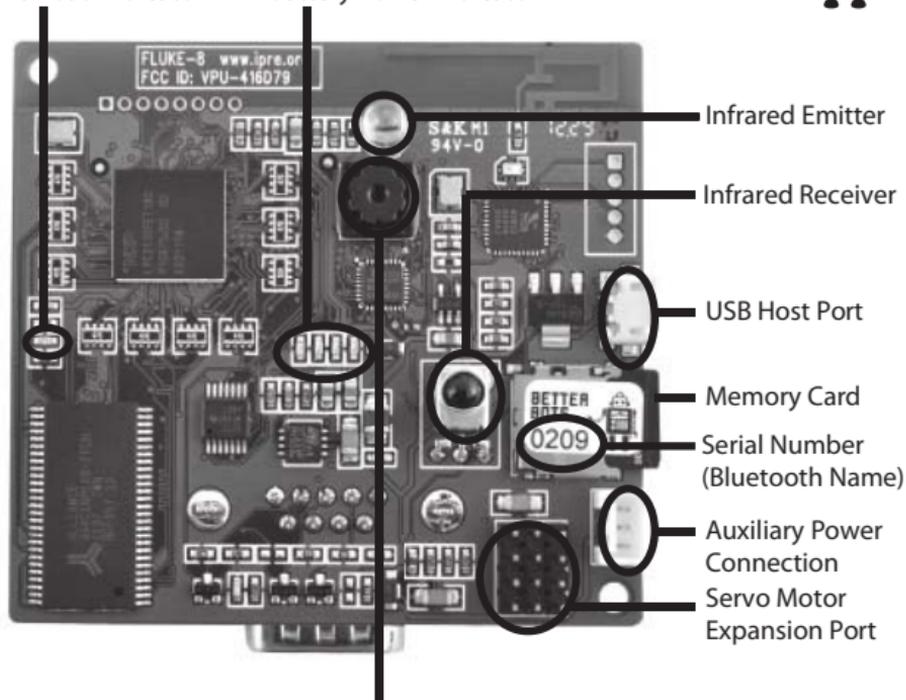
You are now ready to explore computer science with robots!

Getting to Know Your IPRE Fluke2



CPU Load Indicator

Battery Power Indicator

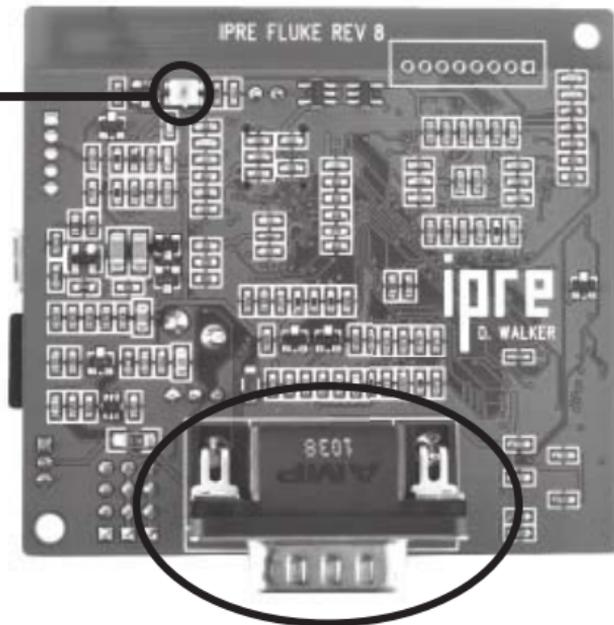


Camera

Lens can be manually focused by turning the top of the lens gently in a clockwise or counter-clockwise direction. Be sure to only turn the very top of the lens to prevent snapping the lens from the board.

(Reverse Side)

Bright Red
User LED



Scribbler Serial Connection

Plug the connector into the serial port of your Scribbler2 Robot

Resources & Troubleshooting

The following resources should help provide additional information or troubleshoot any problems you have using your IPRE personal robot.

Myro-users Mailing List:

<http://myro.roboteducation.org/mailman/listinfo/myro-users>

IPRE Wiki:

<http://wiki.roboteducation.org/Start>

Fluke2 Full User Manual & FCC Regulatory Info:

<http://www.betterbots.com/cshop/support>

If you have comments or questions about software installation or using your IPRE Personal Robot, please contact us.

e-mail: betterbots@betterbots.com

FCC Regulatory Information

FCC ID: VPU-416D79

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment is designed to be used without a plastic housing in its finished configuration. Any changes or modifications to this equipment could void the user's authority to operate the equipment.