



BETTERBOTS

Institute for Personal Robots in Education

FLUKE II

SCRIBBLER UPGRADE MODULE

IPRE Personal Robot

The IPRE personal robot is a Scribbler2 robot augmented with the IPRE Fluke2 robot upgrade module to provide a camera, wireless Bluetooth data link, and a user-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 user-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 adaptor.
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.

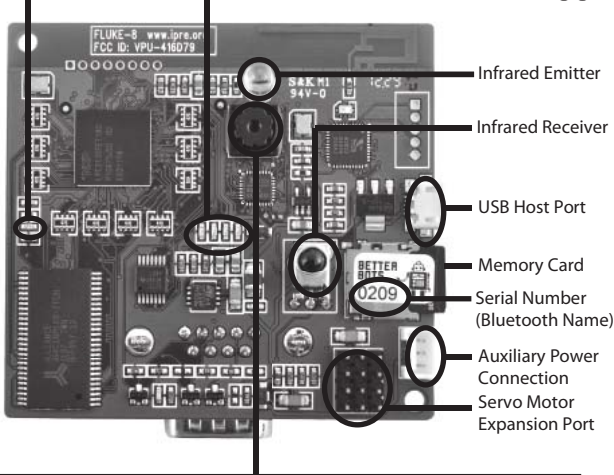
You are now ready to use your IPRE Personal Robot!

Getting to Know Your IPRE Fluke2



CPU Load Indicator

Battery Power Indicator



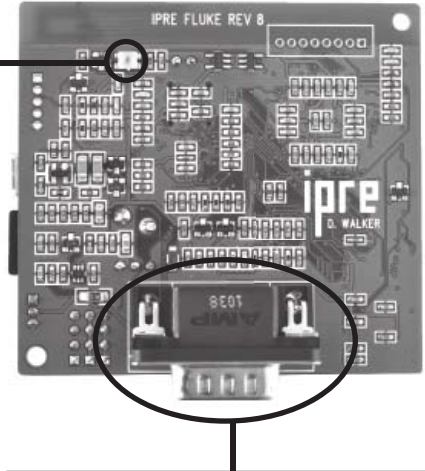
Camera

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.

IPRE Fluke2 (Back)

(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 Support:

<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

IPRE Fluke2 is manufactured under license from the Georgia Institute of Technology.

FCC Regulatory Information

FCC ID: VPU-416D79

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS.

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

NOTE: 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 nstallation. 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 plugged into the external DB9 serial port on other robot products and 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.

RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.