

What's New with *Robotics with the Boe-Bot*
Versions 2.0, 2.1, and 2.2

Robotics with the Boe-Bot is the newly revised and expanded version of *Robotics!* our most popular Stamps in Class student guide. New features include:

- A chapter for beginners with a BASIC Stamp getting started guide - no prerequisite required. Appropriate for aspiring roboticists as young as 14.
- All new PBASIC 2.5 programs, structured programming features code block support with DO...LOOP, IF...THEN...ELSEIF...ELSE, and SELECT...CASE
- Expanded from 6 Chapters with 27 Activities to 8 Chapters with 41 Activities.
- Techniques for graphing servo pulse transfer curves, averaging ambient light measurement, and infrared stripe following.
- Example programs designed specifically for the fast, responsive Parallax Continuous Rotation Servos.
- Audio and LED light indicator circuits for low-battery brownout, infrared interference, and sensor trouble-shooting.
- Bidirectional Debug Terminal communication with the Boe-Bot.
- Redesigned tactile whisker contact switches that reduce “blind spots.”
- New photoresistor experiments that now demonstrate digital measurements using resistor divider circuits, and analog measurements with an RC circuit and decay time measurements.
- Improved remote object and distance detection with shielded, frequency-matched infrared LED emitters and detectors that can be used to increase detection range. Follow a stripe on the floor, a person, or another Boe-Bot!

The activities in *Robotics with the Boe-Bot* requires a few parts not previously used with *Robotics!* v1.5. If you already have a Boe-Bot, you can conveniently order these parts by asking for the Boe-Bot Upgrade Kit.

Boe-Bot Upgrade Kit		
Parallax Stock Code	Description	Quantity
150-02020	Resistor, 2 K Ω , CF, 5%, ¼ watt	2
150-02210	Resistor, 220 Ω , CF, 5%, ¼ watt	5
150-04720	Resistor, 4.7 K Ω , CF, 5%, ¼ watt	1
700-00060	Standoff, ¼" round aluminum, 1" long, 4-40	4
710-00007	Screw, pan head, Phillips, 7/8", 4-40	2
713-00007	Spacer, round aluminum #4, ½"	2

Several other robotics parts were improved before the recent text revision. If your Boe-Bot is older than July 2003, you may also need to replace your servos, infrared emitters, or whisker wires for best results. *Robotics with the Boe-Bot* was written specifically for Parallax Continuous Rotation Servos. If you are not sure which parts you have, check out Appendix J to *Robotics!* v1.5 for details.

Recently Upgraded Parts		
Parallax Stock Code	Description	Quantity
900-00008	Parallax Continuous Rotation Servos	2
350-00003	Infrared LED – T1 3/4	2
350-90000	LED Standoff	2
350-90001	LED Light Shield	2
700--00056	Whisker wires	2

All of the parts listed on this page can be purchased through the Robotics Component Shop at www.parallax.com (on the home page, chose Component Shop from the Robotics menu).

Revision History

- *Robotics with the Boe-Bot v2.0*: This text is entirely new material, giving detailed instructions for building, testing and programming the Parallax Boe-Bot robot. Its features and differences from *Robotics! v1.5* are outlined above.
- *Robotics with the Boe-Bot v2.0*: This revision features the addition of Chapter 1 Activity 6: Introducing ASCII Code, and several topics to assist the new user including Compiler Directives, a diagnostic test for computers with non-standard serial ports, and additional help in Appendix A: Troubleshooting.
- *Robotics with the Boe-Bot v2.0*: This revision added Solutions for a select set of Questions, Exercises and Projects in each chapter Summary. The other set of the Questions, Exercises and Projects have been removed and reserved along with the accompanying Solutions for the exclusive use of Educators. This set is available to members of the ParallaxEducators Yahoo! group. You may join via Discussion Groups under the Education menu www.parallax.com. This site is moderated and requires proof of status as an Educator to join.

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