RidgeSoft™

IntelliBrain™ 2
Robotics Controller

- **13 Digital Inputs/Outputs**
- **7 Analog / Digital Inputs**
- **COM2 Port**
  - RS-232, 115.2K baud
  - CMUcam ready (6V regulated power)
- **Infrared Transmitter**
- **Infrared Receiver**
  - Sony/Universal TV remote compatible
- **8 Servo Ports**
  - 5 with power
  - 3 signal only
- **5 I²C Ports**
- **Java™ Programmable**
- **Atmel ATmega128 Microcontroller**
  - 14.7MHz
  - 128K flash program memory
  - 132K RAM
  - 4K bytes EEPROM
- **16x2 LCD Display**

RoboJDE v1.5.0r1
Ready

- **6 Programmable LEDs**
- **Buzzer**
- **2 DC Motor Ports**
- **Thumbwheel**
- **Battery Power**
  - 4-6 alkaline, NiCd, or NiMH batteries
- **Mounting Holes**
  - IntelliBrain-Bot
  - Custom robot
  - Lego grid compatible
- **Wall Brick Power Connector**
- **2 Push Buttons**
- **COM1 Port**
  - RS-232, 115.2K baud
  - Host interface or general purpose
  - Bluetooth ready (5V pin 9 power)
- **Power Switch**

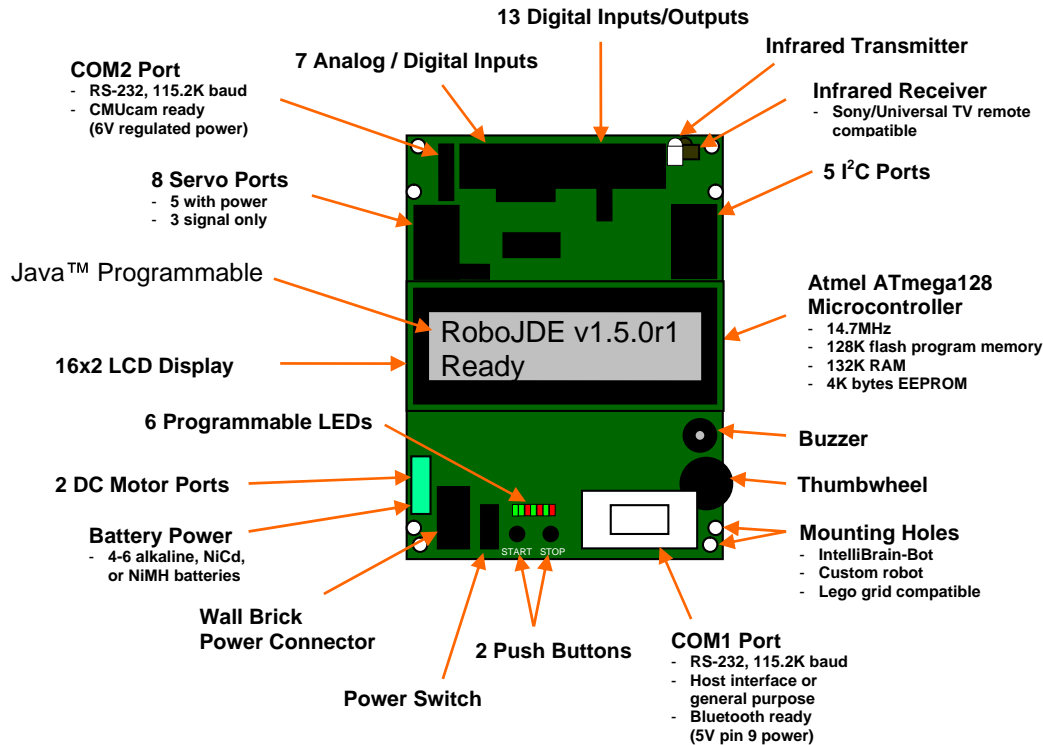START   STOP

Overview

The IntelliBrain™ 2 robotics controller is a cutting-edge tool for hands-on learning in Computer Science, Robotics and Engineering classrooms and laboratories.

The IntelliBrain 2 robotics controller brings true Java™ programmability, a large assortment of easy to interface sensor and effector ports and a fully programmable user interface together into a small, convenient package.

The RoboJDE™ Java-enabled robotics development environment included with the IntelliBrain 2 robotics controller provides an easy to use, integrated Java development environment and a rich robotics class library.

Exceptional documentation, including user guides, API documentation, example programs and tutorials, explains everything from getting started to advanced robotics programming topics.

Combined with the optional IntelliBrain-Bot robot chassis, the IntelliBrain 2 robotics controller provides all of the essential elements educators need to establish an effective hands-on robotics curriculum.

Programming

The RoboJDE™ Java development environment provides an integrated, easy to use programming and debugging environment for the IntelliBrain 2 robotics controller.

With classes to support everything from sensors and motors to navigation and behavior-based control, the RoboJDE class library facilitates programming robotic intelligence while reinforcing the principles of object-oriented programming.

Sensor & Effector Interfacing

All IntelliBrain I/O ports are designed to make it easy to electrically interface to sensors and effectors. All ports provide power and ground in addition to the port's signals using standard 3 or 4 pin 0.1 inch male headers. Sensors and effectors are easily connected using Molex connectors. Motor and battery connections are via screw terminal headers.

The IntelliBrain controller supports a large variety of sensors and effectors, including:

- hobby servo motors
- DC motors (up to 9V – 1A each)
- CMUcam / CMUcam2 vision sensor

- Parallax Ping)))™ sonar range sensor
- Devantech CMPS03 magnetic compass
- Devantech MD03 & MD22 motor drivers
- Devantech SP03 speech synthesizer
- Devantech SRF04 & SRF08 sonar range finders
- infrared photoreflectors, including Fairchild QRB1134
- LEDs
- Nubotics WheelWatcher™ shaft encoders
- photoresistors
- potentiometers and switches
- Sharp infrared range sensors
- Sony infrared remote controls
- Universal infrared remote controls
- AirCable Bluetooth serial cable

User Interface Features

A 16x2 character liquid crystal display, two push buttons, a thumbwheel, a buzzer, six LEDs, and an infrared universal remote control receiver provide a flexible, programmable human interface to the IntelliBrain 2 robotics controller.

Host PC Requirements

- Windows XP
- 50 Mbytes available disk space
- 128 Mbytes RAM
- RS232 serial port

Features

Feature	Main Board
CPU	▪ Atmel ATmega128
Clock	▪ 14.7 MHz
RAM	▪ 132K
Flash	▪ 128K
EEPROM	▪ 4K bytes
Display	▪ 16x2 LCD
Program Buttons	▪ START/STOP
Thumbwheel	▪ 1
Buzzer	▪ 1
LEDs	▪ 1 power ▪ 7 programmable (1 modulated infrared)
Serial Ports	▪ 2 RS232 (up to 115.2K) ▪ COM1 host port or general purpose ▪ COM2 includes +6V to power CMUcam
General Purpose I/O Pins	▪ 7 analog / digital inputs ▪ 13 digital I/O
I^{2}C Ports	▪ 1 I^{2}C bus ▪ 5 headers with +5V and ground
Servo Ports	▪ 5 with power and ground ▪ 3 signal only
Motor Ports	▪ 2 (up to 9V, maximum 1A each)
Modulated Infrared (38 kHz)	▪ 1 transmitter LED ▪ 1 receiver
Powering	▪ 3V to 9V (battery not included) ▪ 4 cell AA battery holder included ▪ Coaxial DC power supply jack (power supply not included)
Dimensions	▪ 4.0" x 3.05" ▪ LCD module: 1.4" x 3.1"
Mounting	▪ 4 1/8" screw-down mounting holes (IntelliBrain-Bot compatible) ▪ 4 Lego® grid compatible mounting holes
Weight	▪ 3 oz. with LCD attached
Software	▪ Full RoboJDE license included

RidgeSoft, LLC
PO Box 482
Pleasanton, CA 94566
www.ridgesoft.com
email: info@ridgesoft.com