GoGo Board

Getting Started

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Please visit **http://www.gogoboard.org** for the latest version of this document.

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Getting to know the GoGo board

There are a few parts in the GoGo board with which you need to be familiar. Figure 1 illustrates the basic GoGo board layout.
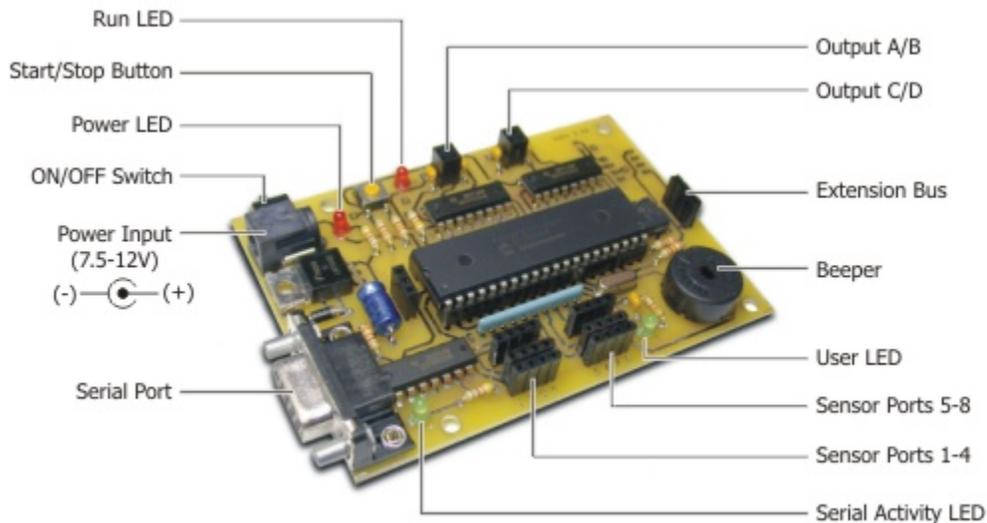

Figure 1: GoGo board layout

Serial Port	The GoGo board uses this port to connect to the computer.
Power Input	This is the main power input for the board. You can also power the board with the optional battery pack. See **Powering the GoGo board** for more information.
On/Off Switch	This is the main power switch.
Power LED	This LED always lights up when there is power and the board is on.
Start/Stop Button	Starts or stop the board's stored procedures.
Run LED	When lit, indicates that a stored procedure is running.
Output A/B and Output B/C	Output Ports. You can connect to actuators such as motors, light bulbs, and relays to them.
Extension Bus	This port allows the GoGo board to communicate with other devices (such as an LCD display, a stepper motor controller)
Beeper	A programmable beeper.
User LED	A user programmable LED.
Sensor Ports	Allows connection to eight sensors (i.e. light, touch, temperature, distance, etc).
Serial Activity LED	Indicates communication between the board and the computer.

What you need

The following is a list of things you need in order to use the GoGo board
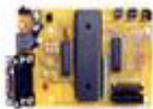
A GoGo board

A 9V power adapter or a battery pack. See **powering the GoGo board** for more information

Serial cable

Sensors and output devices (like motors, lights)

Powering the GoGo board

The GoGo board is designed to work at 9v. However, this is quite flexible. Generally, anything between 6-12v should be fine. The power can come from a standard power supply or from a battery. Please read "**Powering the GoGo board**" for more information about the power supply and how to buy the right one.

Once the board is powered, turn it ON. You should hear two beeps and the Run/User LEDs should blink twice.

Connecting the GoGo board to the computer

The GoGo board uses a standard DB9 male-to-female serial cable. These cables are available at computer retail stores. You should connect the male side to the GoGo board and the female side to the serial port (COM port) on the computer. These ports are usually located at the back of the computer. Some older computers have more than serial port. In this case, I recommend using the first port (COM1); otherwise you will need to change the configurations of the GoGo board software to match the port you use. Figure 2 shows how a serial port looks like at the back of a computer.
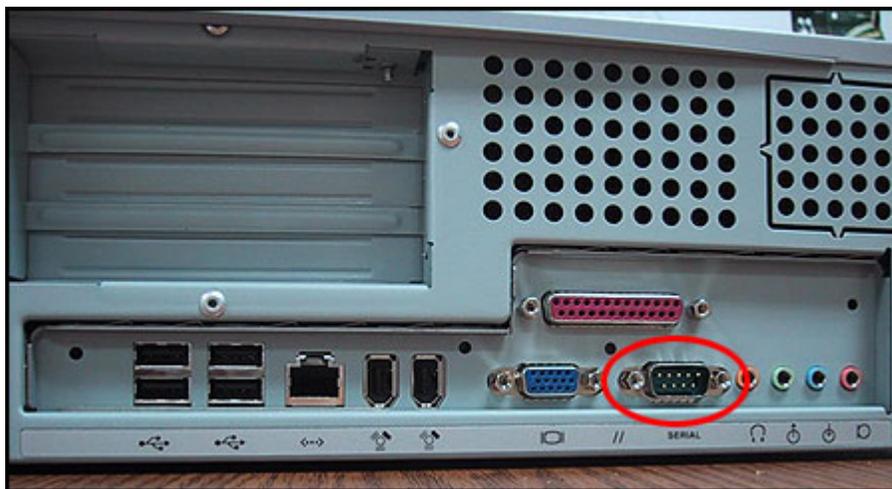
Figure 2: An example of a serial port at the back of a computer.

Testing the GoGo board

The easiest way to test the GoGo board is to use the **GoGo board monitor program**. You simply start the program and click on the "connect" button. If there are no error messages, it means you are connected! You can then try to read sensor values and turn on or off output ports. Figure 3 shows a screenshot of the GoGo board monitor software.
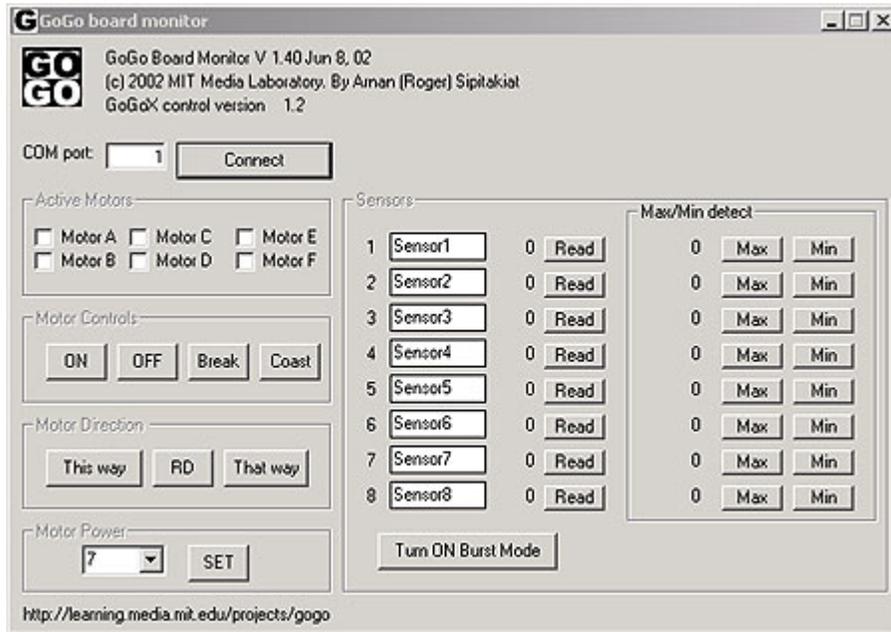
Figure 3: A screenshot of the GoGo monitor software

Where to go next?

Now that the GoGo board is working, you can start using it in many programming environments. The GoGo board can function in two modes: tethered and autonomous.

- **Tethered Mode** - In this mode the board is always connected to the computer (via a serial cable). It allows any programming language that can access a serial port to interact directly with the sensor values and to actuate various devices. You can create games, interactive art work, and many other applications in this mode. Currently the GoGo board has libraries to support Microworlds Logo, Imagine Logo, Squeak, Active-X compatible languages (i.e. Visual Basic, Visual C++, MS-Office). Please visit the download page for more information.

- **Autonomous Mode** - This mode allows users to download procedures to the board. Then, the board can execute those procedures while disconnected from the computer. This allows users to create autonomous robots, environmental sensing devices, and other smart objects. The language that is used to program the GoGo board is called Cricket Logo. There are many programs that supports this language. See **GoGo board Cricket Logo support** page for more information.

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Last updated: Nov 30, 2003