

What do I need to get started?

Before you begin, you will need to collect the necessary hardware and software items to have something to work with. I will start with a basic list and provide further explanation on each of the listed items a bit later. Once you are familiar with the items you require, you can set about the tasks of making decisions as to which items will fit your needs and begin collecting the needed materials. You will need the following:

- Several Microcontroller Chips (16F84-10/P or SX-18 recommended)
- A PC compatible computer (any one even an old one will do)
- A text editor such as MS-DOS Edit, Notepad or Wordpad
- A programmer (more on this later)
- Software to support your chosen programmer
- Ceramic resonators or Quartz Crystals
- 10 K resistors
- A 5 Volt DC regulated power source
- A Breadboard or Protoboard (for construction of your test circuits)
- Something to connect to your microcontroller (LED's and resistors to get started)
- The most recent supported version of JAL

As you read through the explanations of each item on the list, you can decide for yourself exactly what will fit your specific needs. I am recommending the 16F84-10/P microcontroller, as this is the device that I will be using in most of my examples. Later, I will discuss other hardware and you will need to make the necessary adjustments for the differences in devices.

Basic electronics knowledge would also be quite helpful. I will go into detail about specific circuits in order to provide a complete understanding of the subject matter. This is only a starting point. As you progress, I am sure you will want to experiment with many other peripheral devices which will enable you to do even more with your chosen microcontroller

Hardware

It will be necessary to obtain a microcontroller and the other associated hardware items on which to run the programs you will be writing. JAL supports several microcontrollers, which are manufactured by Microchip Technologies and Scenix. The supported version of JAL will work with Microchip Technologies 16C84/04, 16C84/10, 16F84/04 and 16F84/10 microcontrollers. Also, the SX18/50 and SX28/50 microcontrollers by Scenix can be used. Limited support versions of JAL lengthen the list of microcontrollers, which can be used, however, all the features of the additional microcontrollers may not be fully implemented at this time. There may also be a few undiscovered and uncorrected bugs so I

recommend that you use the supported version for your beginning efforts and try out the unsupported versions when you gain a bit of experience.

I am including a short list of suppliers where both the microcontrollers and their necessary support hardware may be purchased. This is not by any means a complete list, but a good starting point. There may be other smaller companies, who have hardware for sale, but at this time, I have identified at least a partial list for you and most of these companies will ship internationally.

Supplier	Web Site	Microcontroller
Digi-Key Corp.	www.digikey.com	PIC
Arrow Electronics	www.arrow.com	PIC
Farnell Electronics	www.farnell.com	PIC
Microchip Technologies	www.microchip.com	PIC
Parallax, Inc.	www.parallaxinc.com	SX

Microchip Technologies sells their products directly, however, they charge about 150% of the normal price and will only ship via UPS ground within the United States. Parallax is the prime distributor for Scenix and they also sell many of the support hardware items you will need as well as their own products using the PIC and SX microcontrollers. Farnell is a worldwide distributor and their products are available through Newark Electronics in the United States www.newark.com I have chosen these vendors as they distribute their products worldwide.