



## PicsimLab\_0\_7\_0

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Download: [github](#) or [sourceforge](#)

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**Parte I**

**Manual em Português**

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# Capítulo 1

## Interface

### 1.1 Comandos

- Clique no conector ICSP para carregar um arquivo .hex.
- Clique no botão PWR para ligar/desligar o emulador.
- Os botões podem ser acionados pelo mouse ou pelas teclas 1, 2, 3 ...

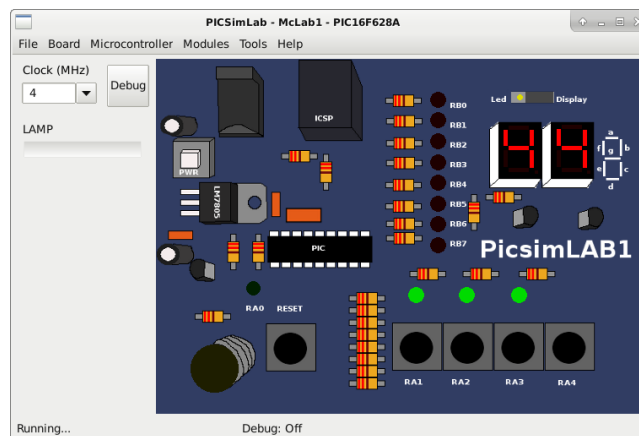
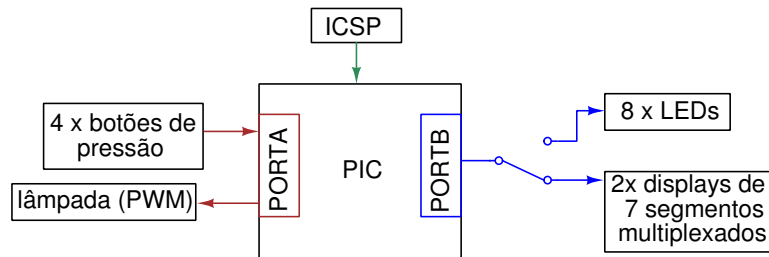
## **Capítulo 2**

### **Placas**



## 2.1 Características da Placa 1

Emula a placa de desenvolvimento McLab1 da Labtools que utiliza um PIC16F628A.



Esquemático da placa 1.

Os códigos fontes de exemplo podem ser carregados através do menu **Help->examples** do Picsimlab.

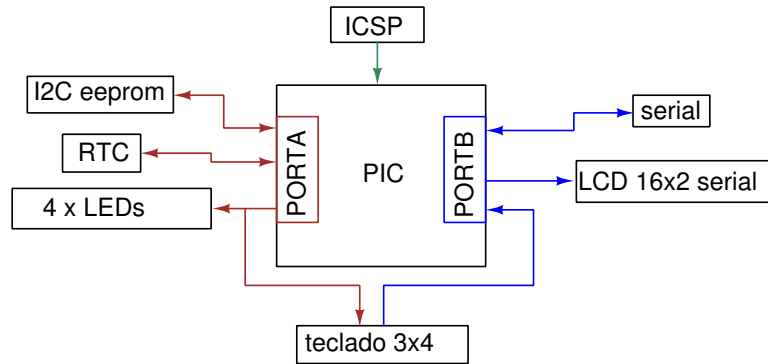
O código fonte de exemplo da placa picsimlab1 usando o **MPLABX** e o compilador **XC8** está no diretório: [src/board\\_1/](#).

Compra do kit McLab1, manual e exemplos na área de download [www.mosaico.com.br](http://www.mosaico.com.br)

O hardware e a utilização do kit também é descrita no livro **Desbravando o PIC - Ampliado e Atualizado para PIC 16F628A** da editora **Erica** (ISBN: 978-85-7194-867-9).

## 2.2 Características da Placa 2

Emula uma placa didática desenvolvida pelo autor.



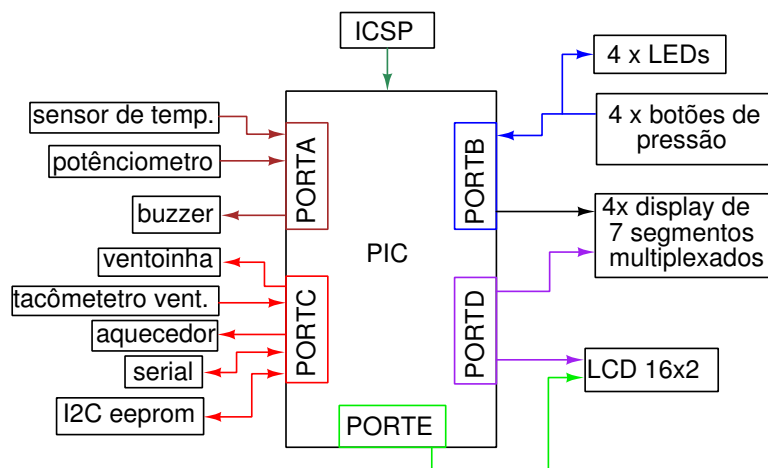
Esquemático da placa 2.

Os códigos fontes de exemplo podem ser carregados através do menu **Help->examples** do Picsimlab.

O código fonte de exemplo da placa picsimlab2 usando o [MPLABX](#) e o compilador [XC8](#) está no diretório: [src/board\\_2/](#).

## 2.3 Características da Placa 3

Emula a placa de desenvolvimento McLab2 da Labtools que utiliza um PIC16F877A ou um PIC18F452.



### Esquemático da placa 3.

Os códigos fontes de exemplo podem ser carregados através do menu **Help->examples** do Picsimlab.

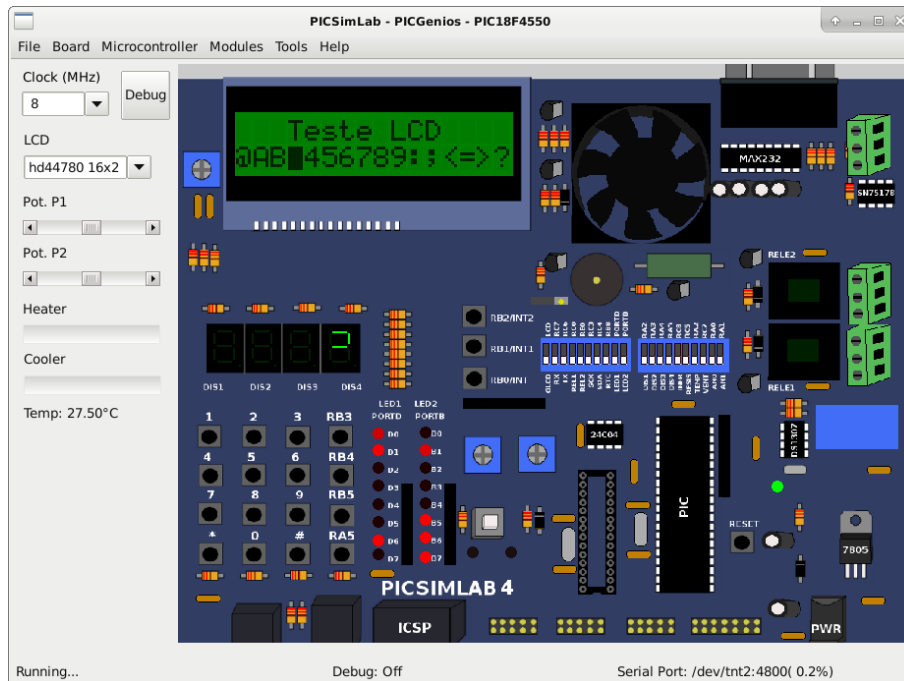
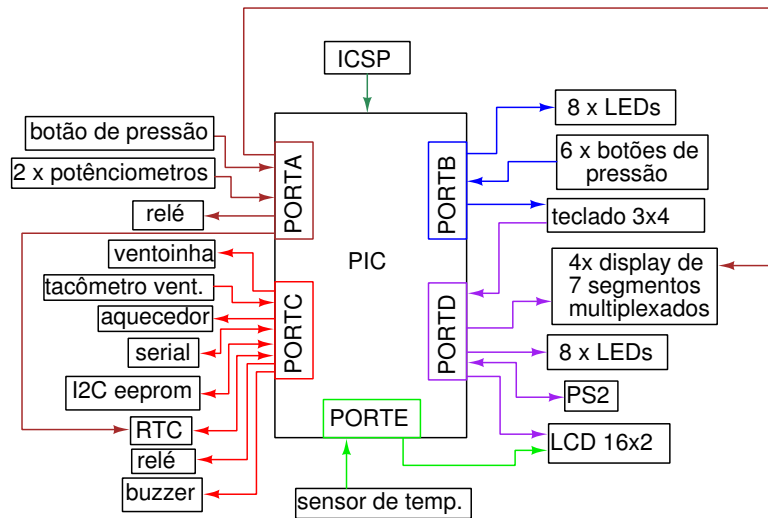
O código fonte de exemplo da placa picsimlab3 usando o [MPLABX](#) e o compilador [XC8](#) está no diretório: [src/board\\_3/](#).

Compra do kit McLab2, manual e exemplos na área de download [www.mosaico.com.br](http://www.mosaico.com.br)

O hardware e a utilização do kit também é descrita no livro **Conectando o PIC - Recursos Avançados** da editora [Erica](#) (ISBN: 978-85-7194-737-5).

## 2.4 Características da Placa 4

Emula a placa de desenvolvimento PICGenios PIC18F e PIC16F Microchip da microgenios que utiliza um PIC16F877A ou um PIC18F452.



Esquemático da placa 4.

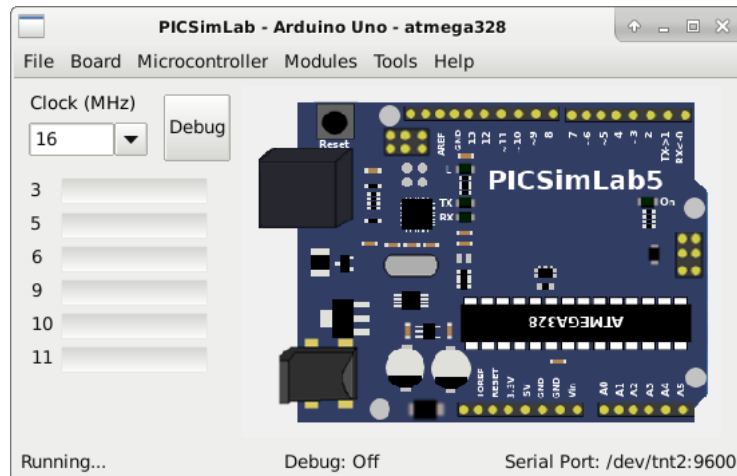
Os códigos fontes de exemplo podem ser carregados através do menu **Help->examples** do Picsimlab.

O código fonte de exemplo da placa picsimlab4 usando o [MPLABX](#) e o compilador [XC8](#) está no diretório: [src/board\\_4/](#).

Compra do kit PICGenios PIC18F e PIC16F Microchip e manual em [www.microgenios.com](http://www.microgenios.com)

## 2.5 Características da Placa 5

Emula a placa de desenvolvimento Arduino que utiliza um ATMEGA328.



Esquemático da placa 5.

Os códigos fontes de exemplo podem ser carregados através do menu **Help->examples** do Picsimlab.

O código fonte de exemplo da placa picsimlab5 usando a IDE [Arduino com o avr-gcc](#) está no diretório: [src/board\\_5/](#).

Mais informações sobre o Arduino em [www.arduino.cc](http://www.arduino.cc)

## **Capítulo 3**

# **Comunicação Serial**

## Capítulo 4

# Depuração Integrada com o MPLABX (PIC)

Para utilizar o IDE [MPLABX](#) para depurar e programar o PicsimLab, basta instalar o plugin [com-picsim-picsimlab.nbm](#) no MPLABX.

O plugin se conecta ao Picsimlab através de um socket TCP na porta 1234, permita o acesso no firewall.

[Tutorial: Como usar o MPLABX para programar e depurar o PICsimLab \(Inglês\)](#)



## **Capítulo 5**

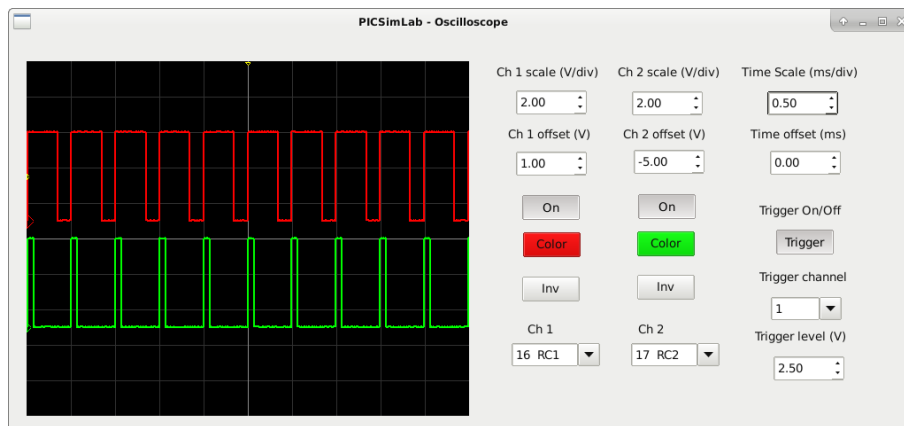
# **Integração com a IDE do Arduino (ATMEGA)**

## **Capítulo 6**

# **Depuração com o avr-gdb (ATMEGA)**

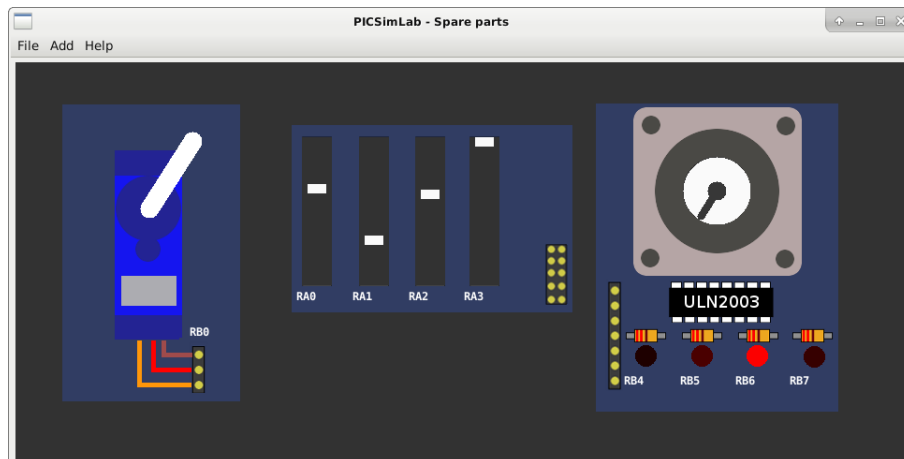
## Capítulo 7

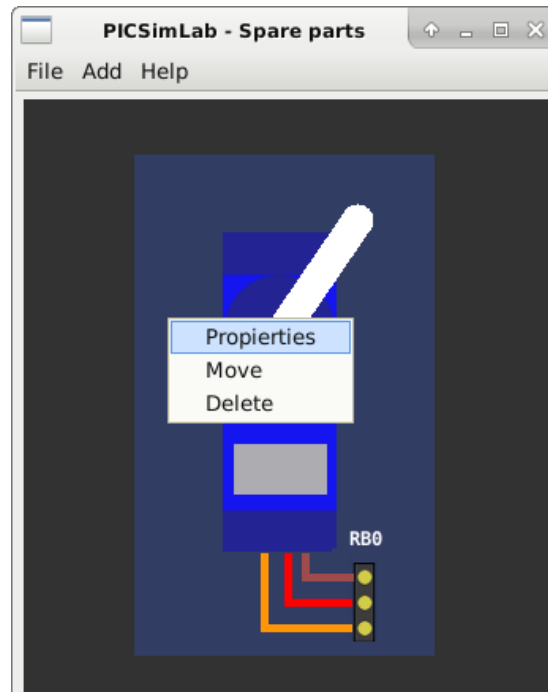
# Osciloscópio



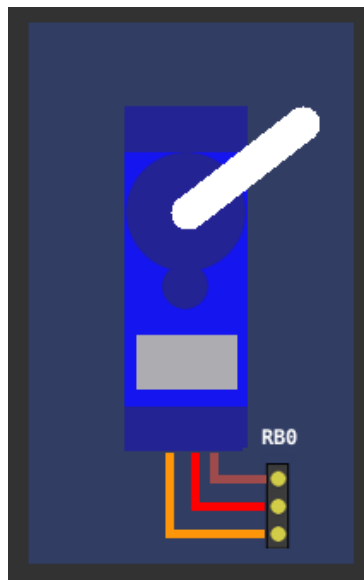
## Capítulo 8

## Partes

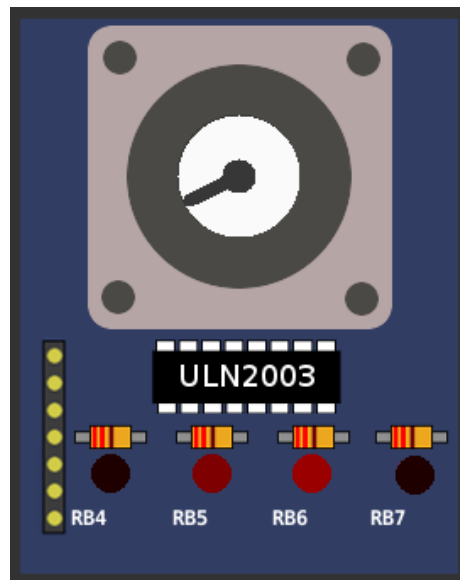




## 8.1 Servo Motor



## 8.2 Step Motor



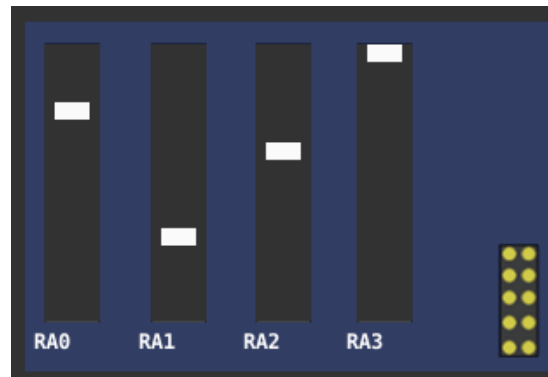
## 8.3 Push Buttons



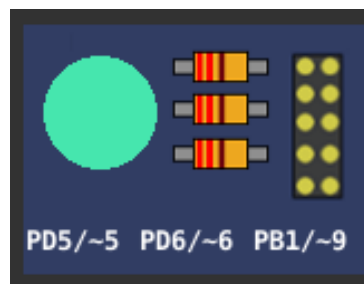
## 8.4 Switches



## 8.6 Potentiometers



## 8.7 RGB LED



## Capítulo 9

# How To's

- [How to use MPLABX to program and debug PICsimLab.](#)
- [\(Deprecated\) How to Compile PICsimLab and Create New Boards.](#)



**Part II**

**English Manual**

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# **Chapter 1**

## **Interface**

### **1.1 Commands**

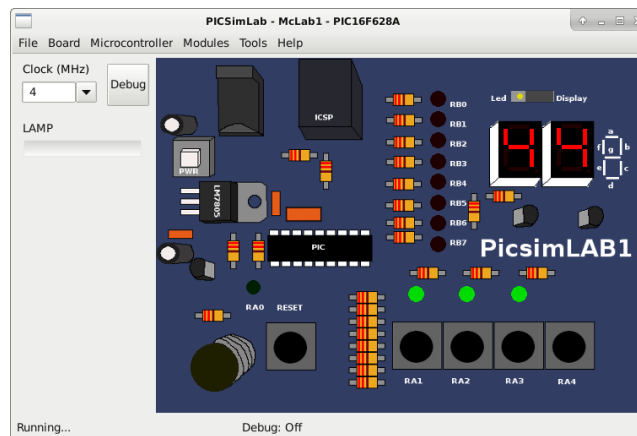
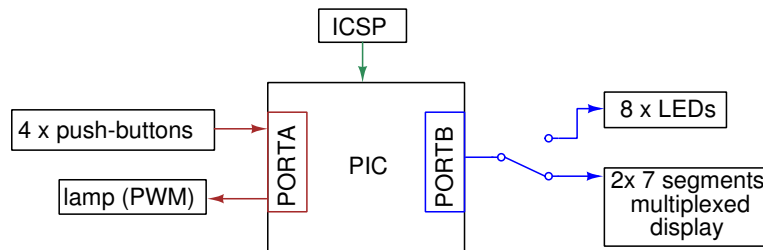
- Click in ICSP connector to load an .hex file.
- Click in PWR button to ON/OFF the emulator..
- The buttons can be activated through mouse or keys 1, 2, 3 e 4.

## **Chapter 2**

# **Boards**

## 2.1 Features of Board 1

It emulates the Labtools development board McLab1 that uses one PIC16F628A.



[Board 1 schematics.](#)

The code examples can be loaded in PicsimLab menu **Help->examples**.

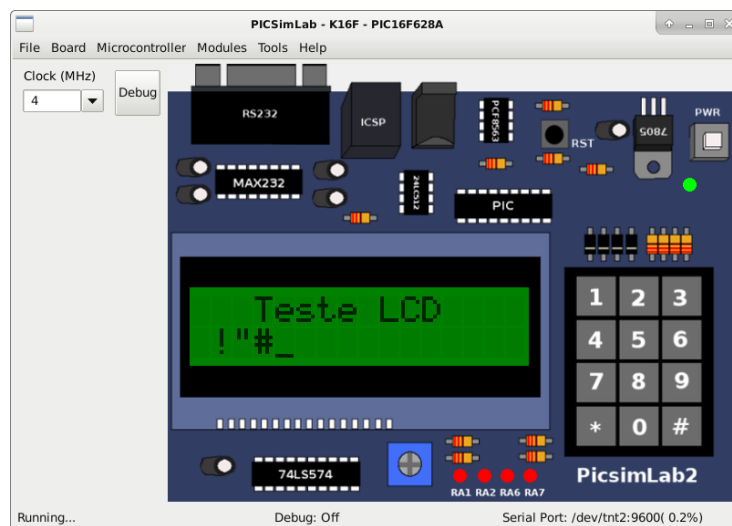
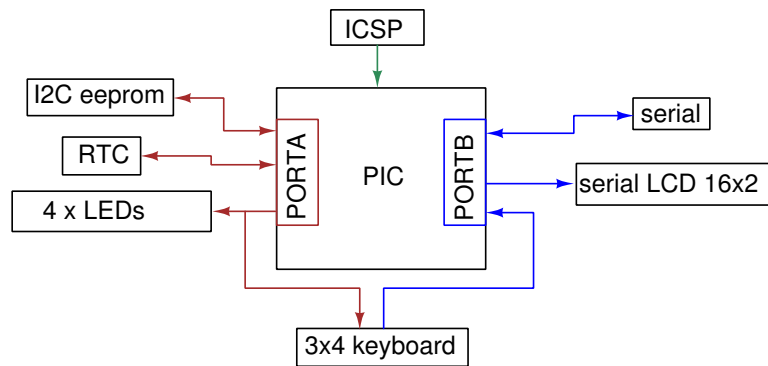
The source code of picsimlab1 example using [MPLABX](#) and [XC8](#) compiler are in the folder: [src/board\\_1/](#).

To buy McLab1 kit, download manual and examples you can go to [www.mosaico.com.br](http://www.mosaico.com.br)

The hardware and the use of kit are described in the book **Desbravando o PIC - Ampliado e Atualizado para PIC 16F628A** of [Erica publisher](#) (ISBN: 978-85-7194-867-9).

## 2.2 Features of Board 2

It emulates an didatic board developed by author.



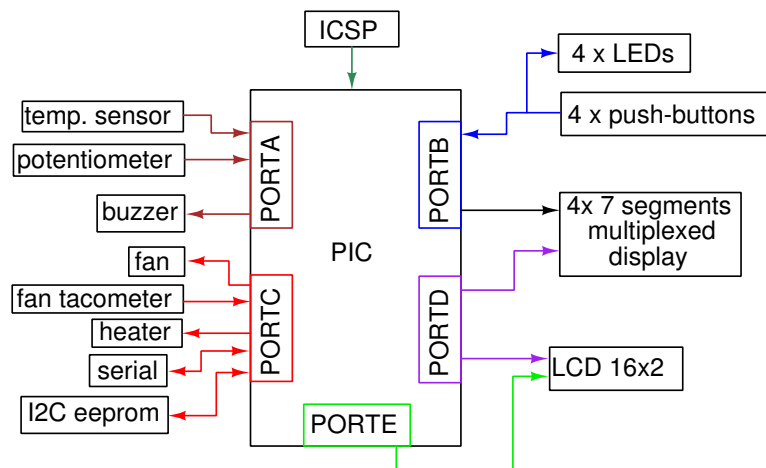
[Board 2 schematics.](#)

The code examples can be loaded in PicsimLab menu **Help->examples**.

The source code of picsimlab2 example using [MPLABX](#) and [XC8](#) compiler are in the folder: [src/board\\_2/](#).

## 2.3 Features of Board 3

It emulates the Labtools development board McLab2 that uses one PIC16F877A or one PIC18F452.



[Board 3 schematics.](#)

The code examples can be loaded in PicsimLab menu **Help->examples**.

The source code of picsimlab3 example using **MPLABX** and **XC8** compiler are in the folder: [src/board\\_3/](#).

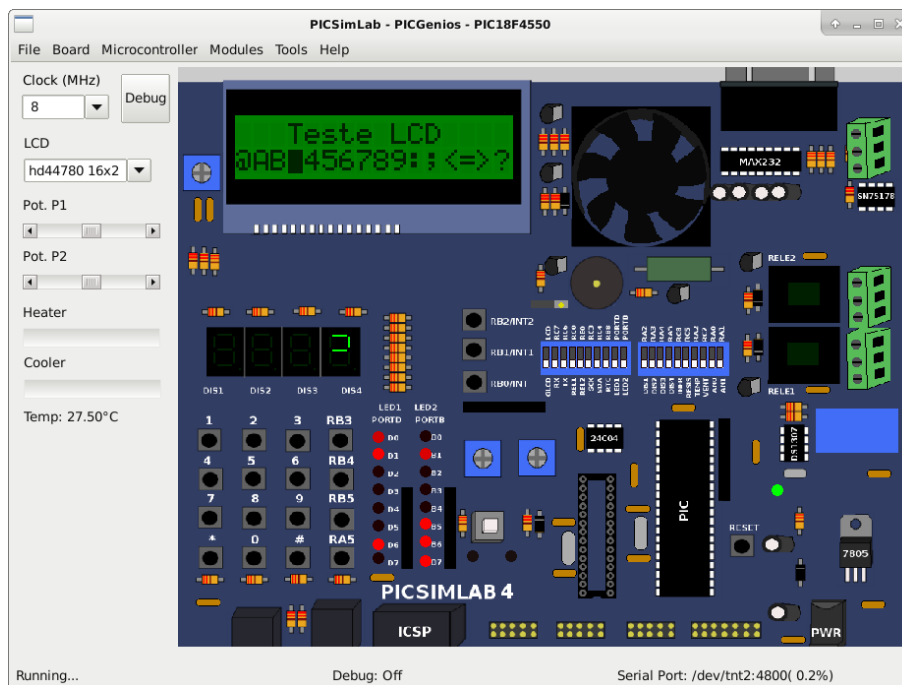
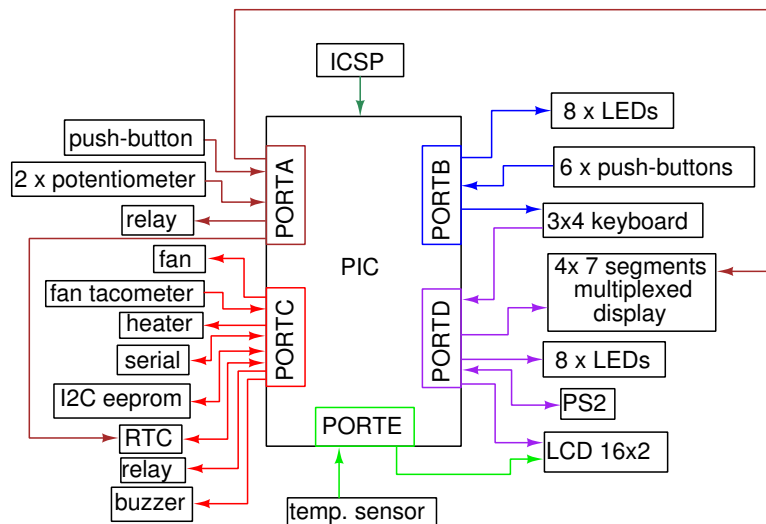
To buy McLab2 kit, download manual and examples you can go to [www.mosaico.com.br](http://www.mosaico.com.br)

The hardware and the use of kit are described in the book **Conectando o PIC - Recursos Avançados** of [Erica publisher](#) (ISBN: 978-85-7194-737-5).



## 2.4 Features of Board 4

It emulates the microgenius development board PICGenios PIC18F e PIC16F Microchip that uses one PIC16F877A or one PIC18F452.



[Board 4 schematics.](#)

The code examples can be loaded in PicsimLab menu **Help->examples**.

The source code of picsimlab4 example using [MPLABX](#) and [XC8](#) compiler are in the folder: [src/board\\_4/](#).

To buy PICGenios PIC18F and PIC16F Microchip kit and download manual [www.microgenios.com](http://www.microgenios.com).

## **2.5 Features of Board 5**

## **Chapter 3**

# **Serial Communication**

## Chapter 4

# MPLABX Integrated Debug (PIC)

To use the [MPLABX](#) IDE for debug and program the PicsimLab, install the plugin [com-picsim-picsimlab.nbm](#) in MPLABX.

The plugin connect to Picsimlab through a TCP socket using port 1234, and you have to allow the access in the firewall.

[Tutorial: how to use MPLABX to program and debug PICsimLab.](#)

## **Chapter 5**

# **Arduino IDE Integration (ATMEGA)**

## **Chapter 6**

### **avr-gdb Debug (ATMEGA)**

## **Chapter 7**

# **Oscilloscope**



## **Chapter 8**

# **Parts**

**8.1 Servo Motor**

**8.2 Step Motor**

**8.3 Push Buttons**

**8.4 Switchs**

**8.5 LEDs**

**8.6 Potentiometers**

**8.7 RGB LED**

## Chapter 9

# How To's

- [How to use MPLABX to program and debug PICsimLab.](#)
- [\(Deprecated\) How to Compile PICsimLab and Create New Boards.](#)

# **Part III**

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