

# PICGraph Demoboard

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Doc. Rev.0 (10/01/11)



## Features

- PIC16F876A – 20MHz Demoboard.
- Support for Graphic Display 128x64 (LGM12864B).
- On-Board PIC programmer.
- Serial RS232 communication and programming.
- Keyboard Keys for user input.
- Expansion Connector.
- A/D Converter.
- Digital Input/Output lines.

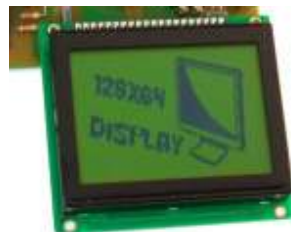
## Description

PICGraph is a PIC16F876A-20MHz demoboard with direct support for graphic LCD display 128x64 (model LGM12864B) that enables users to develop their own graphical applications in a short time.

Text, images and geometrical curves can be displayed, creating nice menus, alert screenshots, measurement instruments user interface, etc.

PICGraph is also equipped with other general purpose peripherals: 3 keys for user input (for example for moving in graphic menus), expansion connector with A/D line for analog signal sampling (for example to make any measurement instrument) and digital Input/Output lines, RS232 port for serial communication and programming.

In-Circuit programming of PIC16F876A microcontroller makes possible programming and testing of the firmware without removing the microcontroller from its place, reducing development time. It is also available a special ICSP connector with all the In-Circuit programming signals that can be used to program PIC16F876A microcontrollers on other boards, so PICGraph can be used also as a general purpose programmer.



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## Layout and Dimensions

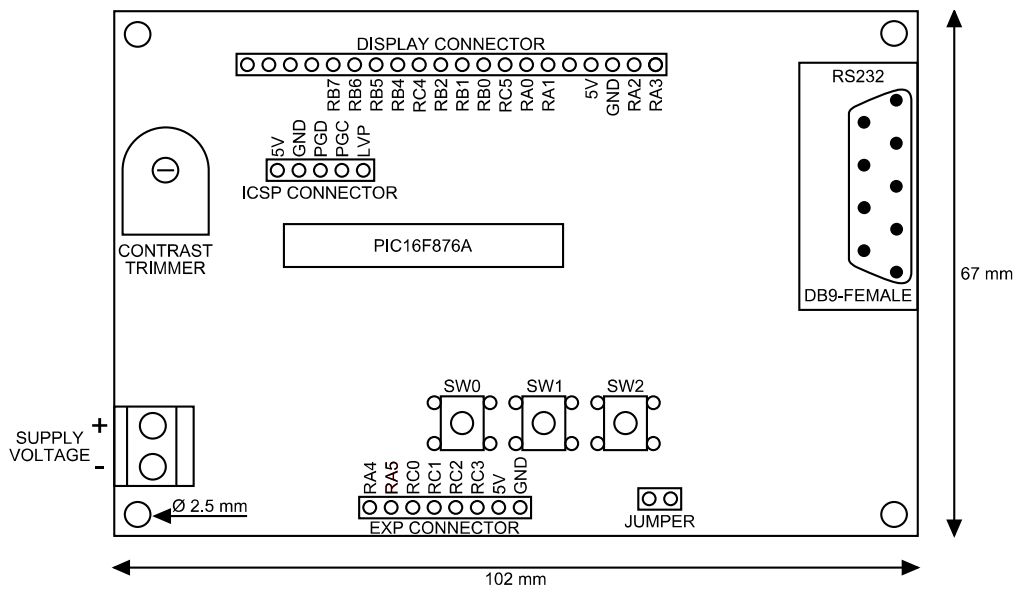


Figure 1 – Board layout and dimensions (Top View)

## Jumper Configuration

JUMPER Status	Description
Open	RS232 port is used for In-Circuit Serial Programming (ICSP). This mode is typically used to program a bootloader on a new microcontroller.
Shorted	RS232 port is used for serial communication with microcontroller.

Table 1 – Jumper configuration

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## Expansion Connector

Pin Name	Pin Functions
RA4	Digital I/O line.
RA5	Digital I/O line – A/D line.
RC0	Digital I/O line.
RC1	Digital I/O line.
RC2	Digital I/O line.
RC3	Digital I/O line.
5V	Positive 5V supply for external circuits.
GND	Ground terminal for external circuits.

Table 2 – Expansion Connector description

## Display Connector

Pin Name	Pin Functions
RB7	Digital I/O line.
RB6	Digital I/O line.
RB5	Digital I/O line.
RB4	Digital I/O line.
RC4	Digital I/O line.
RB2	Digital I/O line.
RB1	Digital I/O line.
RB0	Digital I/O line.
RC5	Digital I/O line.
RA0	Digital I/O line.
RA1	Digital I/O line.
5V	Positive 5V supply for external circuits.
GND	Ground terminal for external circuits.
RA2	Digital I/O line.
RA3	Digital I/O line.

Table 3 – Display Connector description

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## ICSP Connector

Pin Name	Pin Functions
5V	Positive 5V supply for external circuits.
GND	Ground terminal for external circuits.
PGD	Programming Data signal for external circuits.
PGC	Programming Clock signal for external circuits.
LVP	Programming Low-Voltage-Programming signal for external circuits.

Table 4 – ICSP Connector description

## Schematic

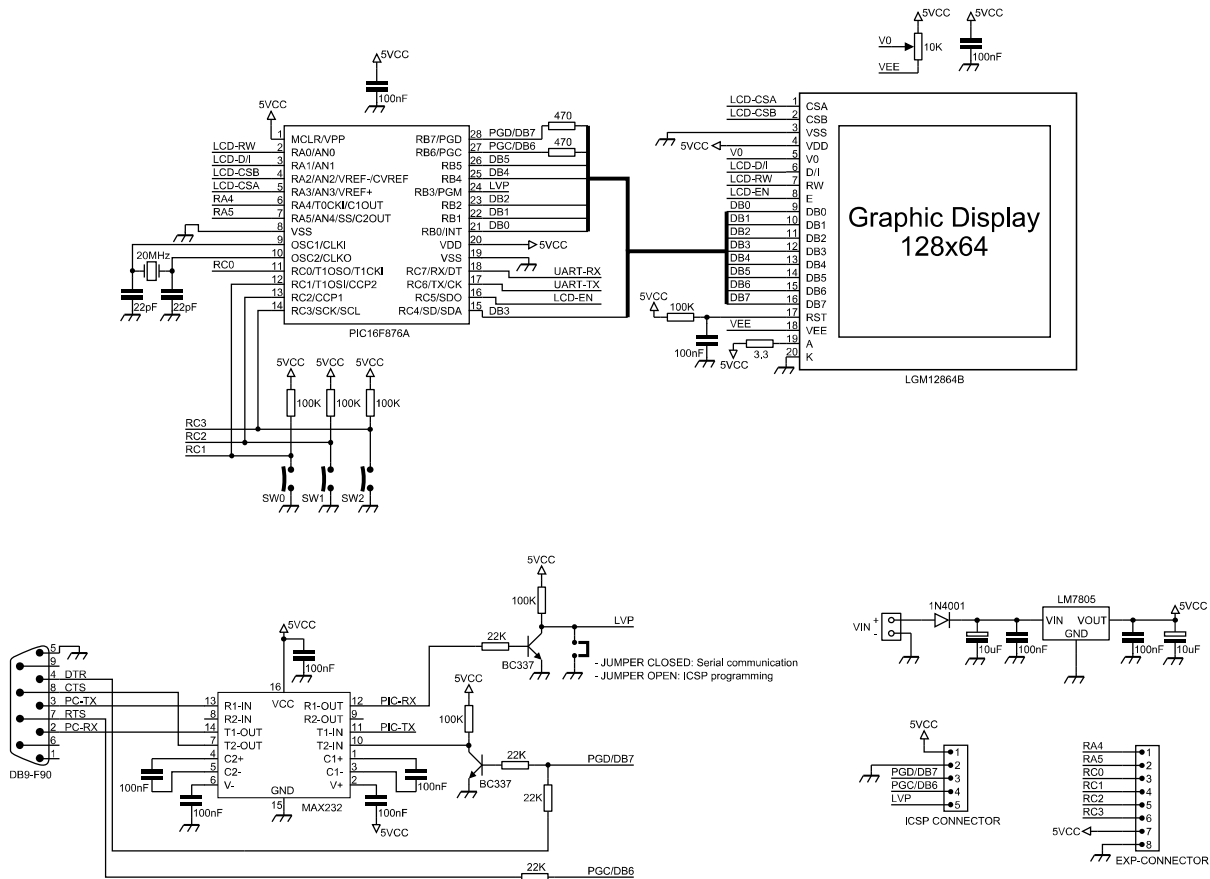


Figure 2 – Board schematic