

Hardware

The MCB900 is designed to be a very flexible evaluation board that you can use for a wide variety of applications. The board includes the following features:

Power Supply

Power is supplied to the MCB900 board by an external 5 — 9 Volt DC power supply which is capable of providing 300-400mA. Connection is made using a standard 5.5mm barrel plug with a 2.5mm center hole. The center hole provides positive voltage. On the board, 3.3 Volts DC is generated by a voltage regulator at IC3.

Philips P89LPC935 Microcontroller

The Philips P89LPC935 (or P89LPC932) microcontroller provided with the MCB900 board is a high-performance, low-pin-count device. It is located at IC2. It may be removed from the socket for external programming using a device programmer (like the [EPM900 Emulator/Programmer](#)). No external crystal is populated on the board. However, a user-provided crystal may be installed at Q1.

Configuration

The MCB900 provides several jumpers you may use to change board configuration. Refer to [Operating Modes](#) for a description of the possible settings.

Status LEDs

The MCB900 board has a power LED (Power) and eight LEDs (connected to the Port 2 outputs). You may use the Port 2 LEDs to display program status while testing your applications.

Potentiometer

The MCB900 board has a potentiometer that may be used to provide a variable input voltage to the analog input AN12.

Serial Port

The MCB900 supports the on-chip serial UART of the P89LPC935/932 and uses a MAX3221 (IC1) to convert the logic signals to RS-232 voltage levels. The UART is used to communicate with the PC for programming and debugging.

The MCB900 serial port is configured as a standard 3-wire interface (Rx, Tx, Gnd). The DTR and RTS lines may be used to reset the board.

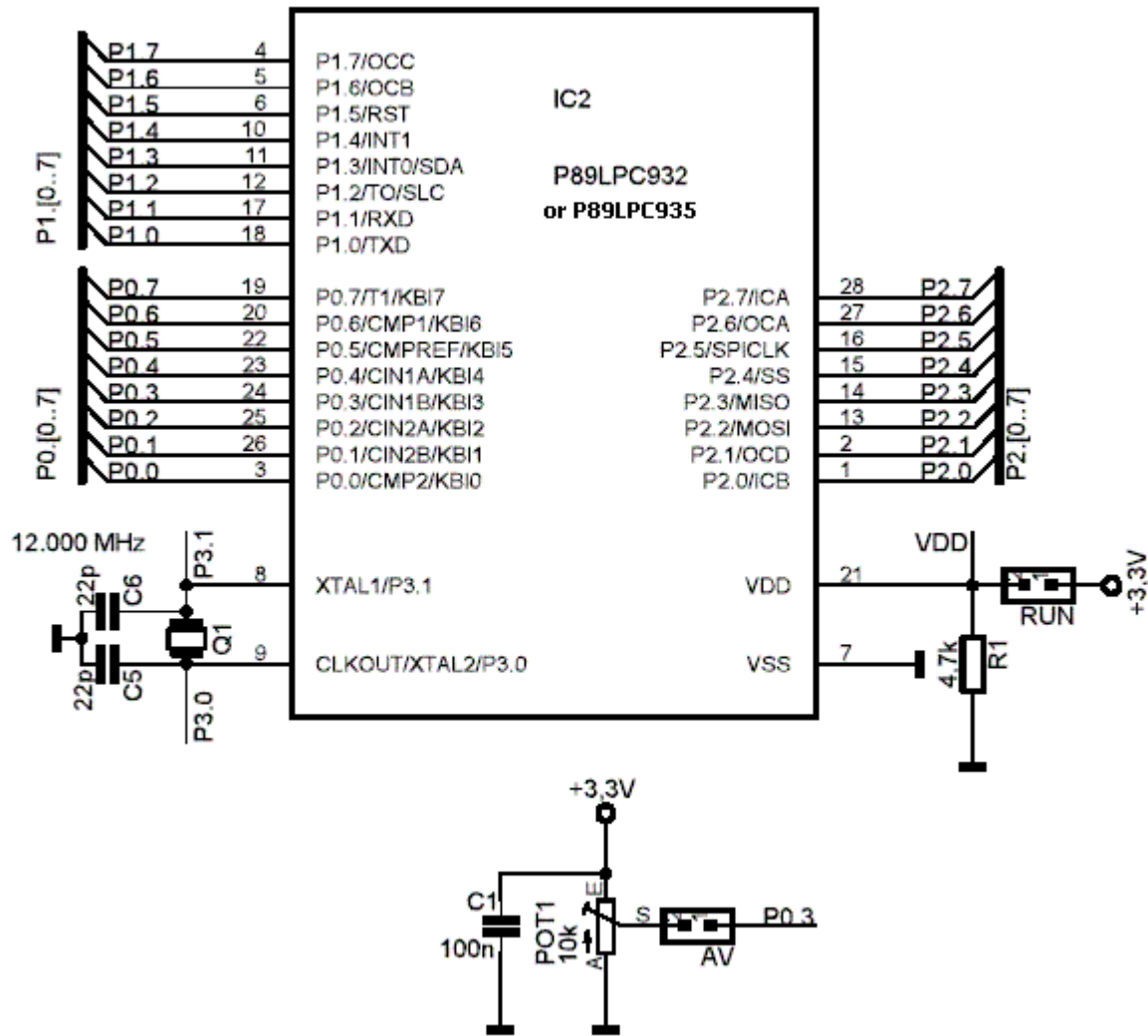
Prototyping Area

A perforated area is provided on the MCB900 evaluation board for prototyping your own hardware. All microcontroller signals are brought out to this area. Signals are driven directly by the microcontroller so be sure to exercise caution to avoid overloading them.

Copyright (c) Keil Software, Inc. and and Keil Elektronik GmbH. All rights reserved.

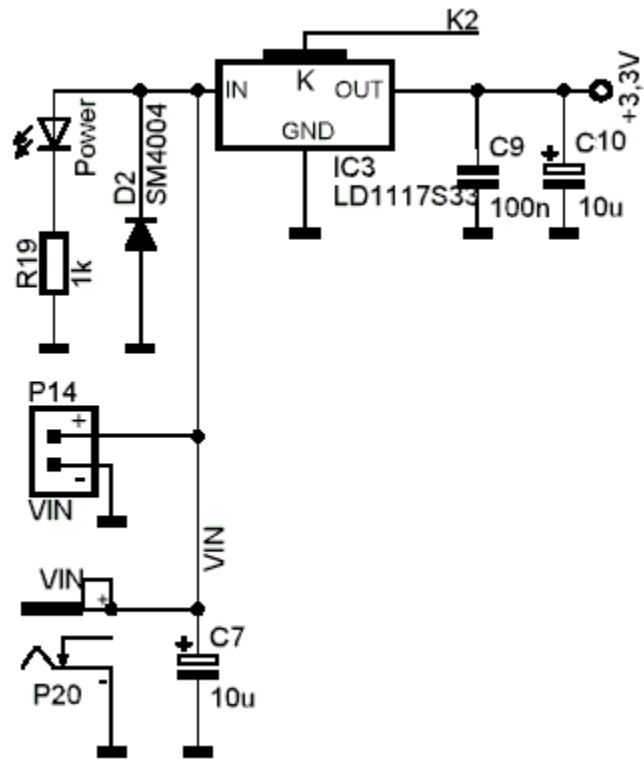
PCB Schematics

Microcontroller

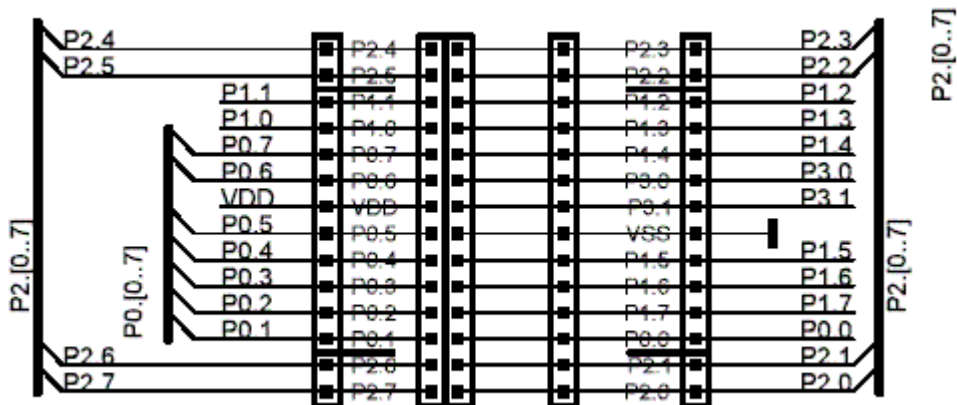


LEDs and Drivers



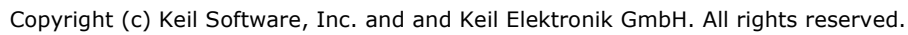


Connector Area



Copyright (c) Keil Software, Inc. and and Keil Elektronik GmbH. All rights reserved.

PCB Layout



Parameter	Specification
Supply Voltage:	5V — 9V DC.
XTAL:	7.373 MHz Internal RC. External user-provided (optional).
Memory:	On-chip RAM/Flash ROM only.
CPU:	Philips P89LPC935 (or P89LPC932).
Peripherals:	1 × RS232 Interface, 1 × Potentiometer (for Analog Input), 8 × Port 2 LEDs.
Prototyping Area:	All P89LPC935/932 pins connected to 55mm x 45mm (2.1" x 1.8") wrap area.
Board Size:	59mm x 110mm (2.3" x 4.3").

Copyright (c) Keil Software, Inc. and and Keil Elektronik GmbH. All rights reserved.