

Manual

USB Test Board

GET IN **touch**
WITH SENSITIVE TESTING

Softline

Modline

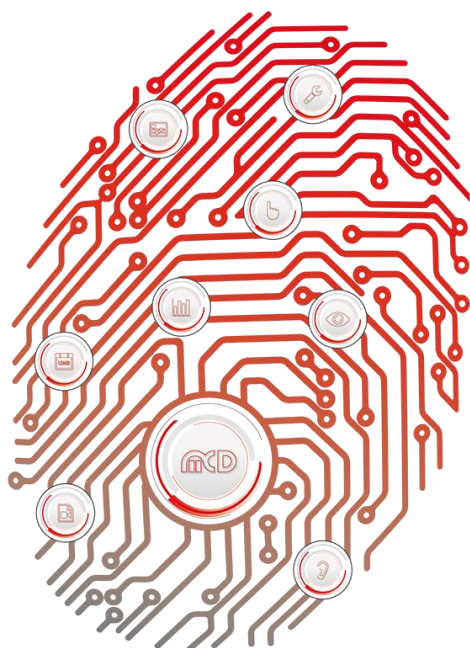
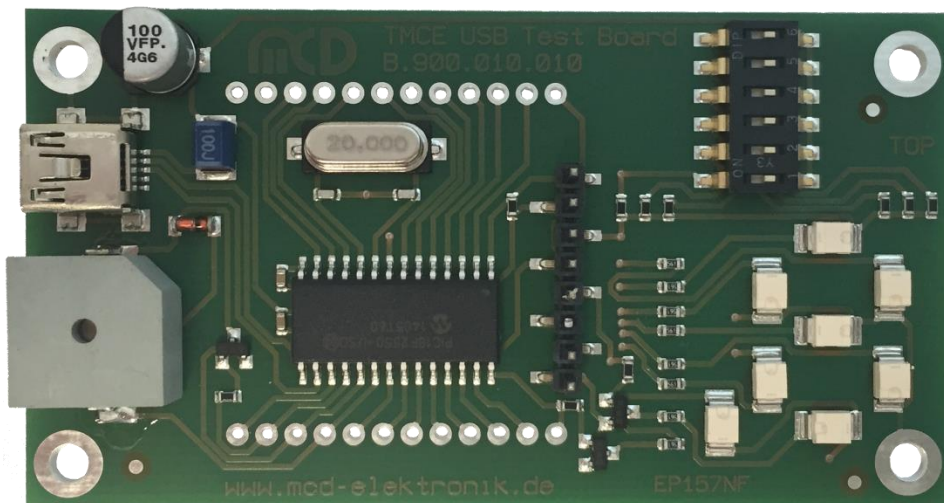
Conline

Boardline

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Application



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1. General

The **USB Test Board** is a board with a **Microchip PIC18F2550** microprocessor, which is already equipped with an independent firmware. It also includes 8 LEDs, of which 7 are arranged in the form of a seven - segment display, and 6 switches for setting options and a buzzer. Communication with the board takes place through a USB interface with the **Toolmonitor USB Test Board**. Within, it is possible to switch on and off individual LEDs and to enable or disable the buzzer. Processing scripts for the LEDs and the buzzer can also be developed there.

In addition, there are also pins (analog and digital) available for more connection options of hardware components.

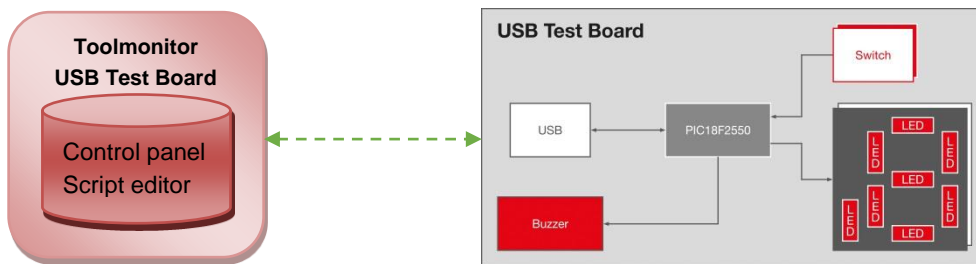


Figure 1: System Architecture of the USB Test Board

Order number: # 120735

2. Commisioning

Install the Toolmonitor and the driver using the supplied installer from the installation media (USBDemoBoardInstall.msi).

Making sure, that the DIP switch 6 is set to *off*, it switches the board over between local and remote mode. If DIP switch 6 is set to *off*, then the board is in remote mode. To put the board in operation, the **Microchip Custom Driver** is required. This is automatically set up during installation. In addition, the driver is located on the enclosed installation media.

After installing the driver, connect again the board and open the Toolmonitor USB Test Board. This initializes the USB communication and enables the switch positions.

3. Product Characteristics

3.1. Software

A MCD Toolmonitor is provided for the USB Test Board. It is located on the attached installation media or can be downloaded from the MCD company website at www.mcd-elektronik.com.

The Toolmonitor has the following components:

- Control panel for controlling the LEDs and the buzzer
- Display of the switch position or analog inputs
- Script editor to control the LEDs and the buzzer in their own end script
- Configuration of analog / digital pins AN0 - AN3
- Creating your own interface for visualization and control of the USB Test Board

3.1.1. Details of the Software

Through the control panel, individual LEDs can be turned on and off. Furthermore, there is an option to leave the buzzer sounded. In addition to the control panel, the Toolmonitor also has a script editor in which LEDs and Buzzer can be controlled in a processing script. There is also the possibility to automatically set the analog / digital pins AN0 - AN4 to various preferences. This is useful when connecting your own hardware to the board.

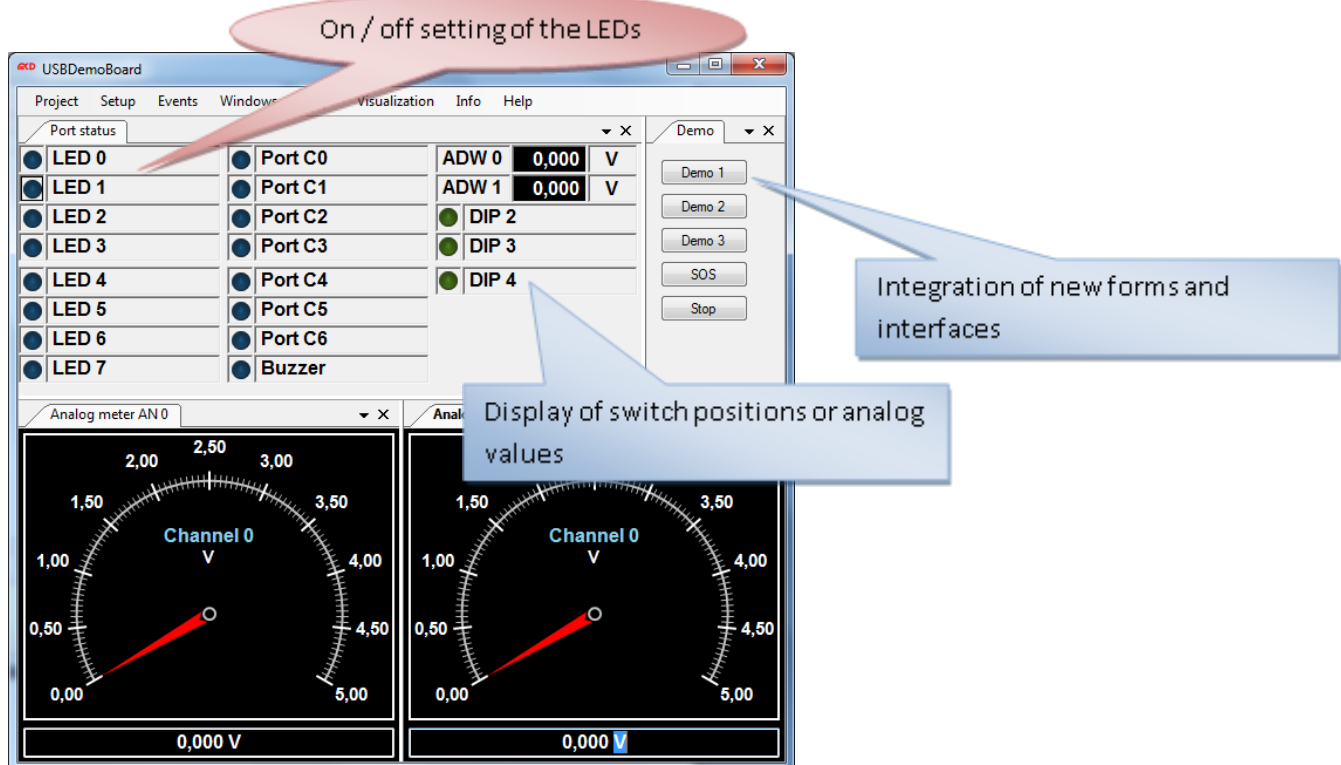


Figure 2: Control Panels of the Toolmonitor USB Test Board

Script editor for designing of control processes for the LEDs and buzzer

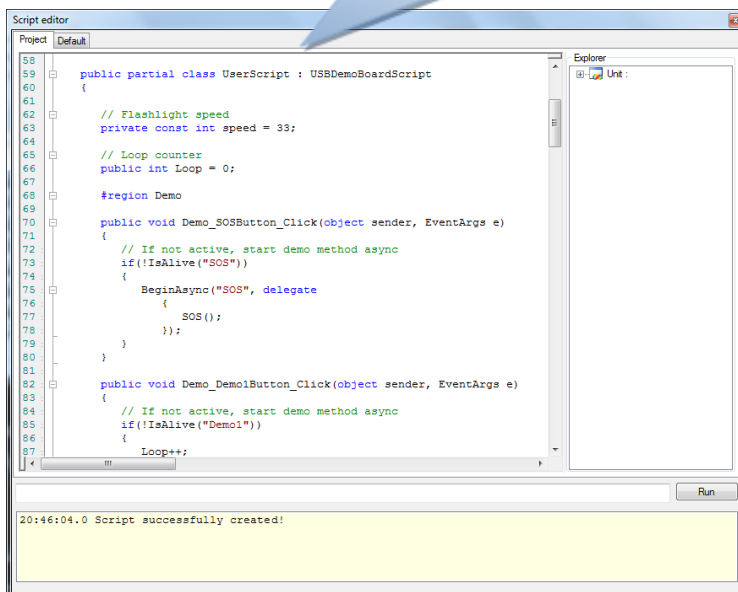


Figure 3: Script Editor

3.2. Hardware

The USB Test Board consists of the following components:

- Microchip PIC18F2550 Mikroprocessor
- 8 LEDs
- Buzzer
- 6 individual adjustable switches
- USB interface
- Individual expendability options when connecting additional hardware
- Analog / Digital port adjustable via Toolmonitor

3.2.1. Details of the Hardware

Querying the push buttons, the on and off switching of the LEDs and the buzzer is controlled in the PIC18F2550. With the buzzer, it is possible to deliver a tone (about 2400 Hz). The microcontroller can be activated through the MCD Toolmonitor via USB interface.

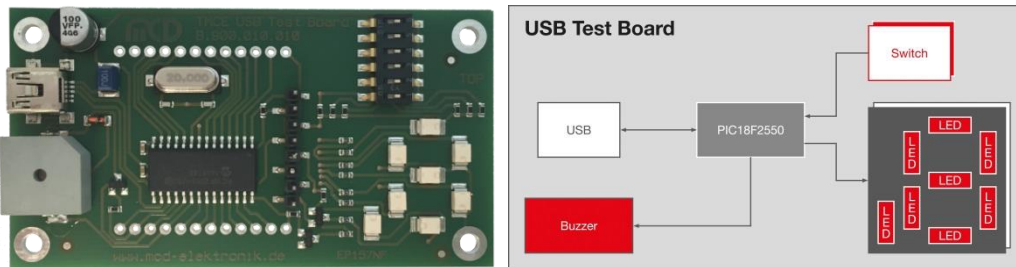


Figure 4: Hardware Components of the USB Test Board

3.2.2. Switch Settings

With the switches, it is possible to switch between remote and local operation. In local operation, existing commands can be displayed on the board via various switch positions.

- All switches 6 off: *Control of the USB Test Board via Toolmonitor through USB*
- Switch 1 on: *All LEDs are blinking consecutively*
- Switches 1 and 2 on: *All LEDs are blinking consecutively followed by two short sounds of the Buzzers*
- Switch 5 + binary digit on switches 1 - 4:
Displays the number on 7 - segment displays, so that they are readable from back
- Other switch positions: *LED port is incremented*