MAX232 Board ™

Manual

All Mikroelektronika's development systems feature a large number of peripheral modules expanding microcontroller's range of application and making the process of program testing easier. In addition to these modules, it is also possible to use numerous additional modules linked to the development system through the I/O port connectors. Some of these additional modules can operate as stand-alone devices without being connected to the microcontroller.

Additional Board

ⒺMikroElektronika
SOFTWARE AND HARDWARE SOLUTIONS FOR EMBEDDED WORLD ...making it simple

MAX232 Board

A standard serial interface RS232C for a PC uses voltage levels in a range between -12V and +12V. For the serial signal used by this standard, a voltage ranging between -3 and -12V stands for a logic one (1), whereas a voltage in a range between +3V and +12V stands for a logic zero (0). In order to adjust this signal to voltage levels present on the microcontroller pins (TTL standard), it is necessary to use a voltage level converter. The *MAX232* board features a built-in circuit MAX232 used to perform necessary adjustment. This circuit is powered with a single 5V voltage. It is used to convert a serial signal from TTL to RS232C standard and vice versa by means of a built-in voltage generator.

There are two connectors provided on the *MAX232* board. The female connector DB9 enables connection with devices that use RS232 standard (usually a PC), whereas the 6-pin connector enables connection with the microcontroller pins intended for serial communication (USART).
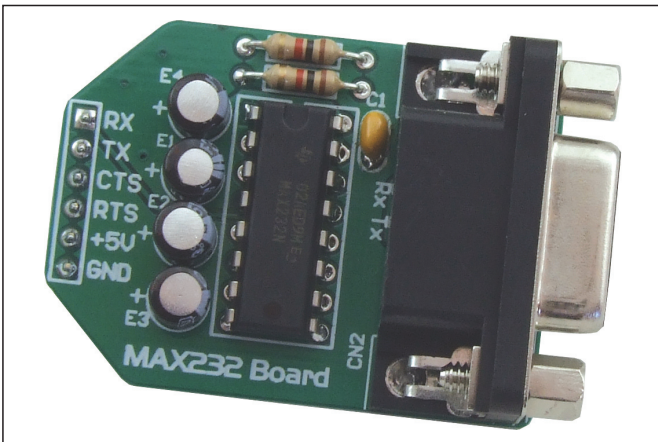

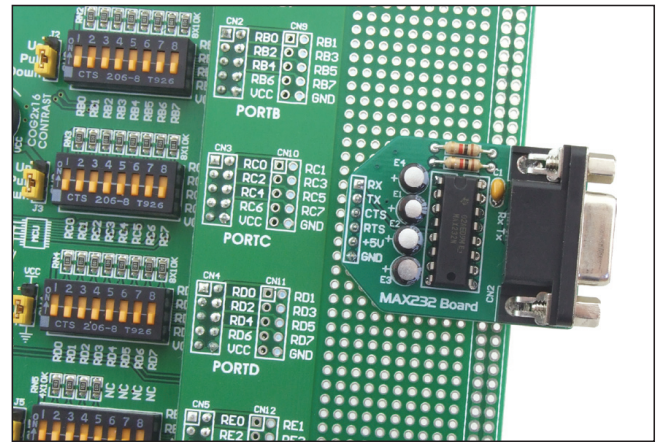**Figure 1**: *MAX232* additional board

Figure 2: *MAX232* board connected to a development system via proto board

The *MAX232* additional board can be connected to a microcontroller provided on the development system. In this case, a PROTO board should be used for connection with the development system's I/O port. If the *MAX232* board is connected to some other device, the connection is established via the appropriate 6-pin female connector or a flat cable.

The board is connected to a PC via a standard serial cable provided with a pair of male-female connectors DB9.
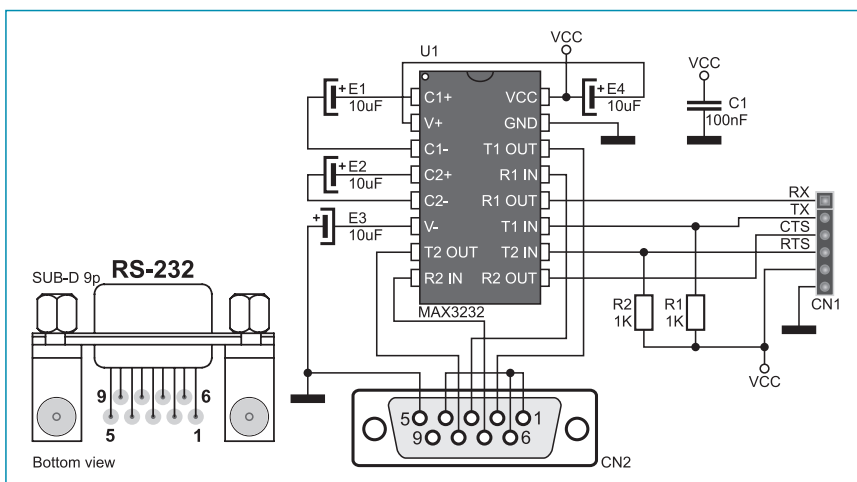

Figure 3: *MAX232* board connection schematic