



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



mikroXMEGA™

Manual

All MikroElektronika's development systems represent irreplaceable tools for programming and developing microcontroller-based devices. Carefully chosen components and the use of machines of the last generation for mounting and testing thereof are the best guarantee of high reliability of our devices. Due to simple design, a large number of add-on modules and ready to use examples, all our users, regardless of their experience, have the possibility to develop their projects in a fast and efficient way.

Development System

 **MikroElektronika**

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

mikroXMEGA

The mikroXMEGA is a compact development system that enables you to experiment with the ATxmega128A1 microcontroller from Atmel®.

Key features:

- Bootloader program loaded into the ATxmega128A1 microcontroller;
- USB-UART communication;
- JTAG connector;
- External power supply 3.3V.

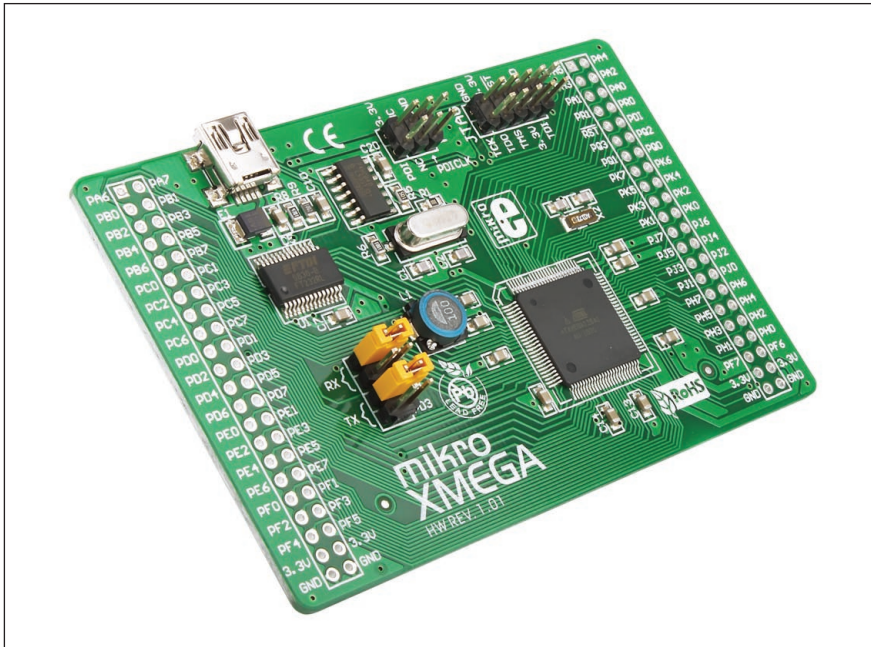


Figure 1: mikroXMEGA development system

How to connect the development system?

The mikroXMEGA development system can be easily connected to external devices via connectors and pads supplied on the board. The USB connector is used to connect the USB-UART module of the development system to a PC. In order to use the USB-UART module, it is necessary to select which UART module of the microcontroller will be used. This is done via jumpers J1-J4. In order to use PC2 (RX) and PC3 (TX) pins, jumpers J1 and J3 should be placed. Likewise, in order to use PD2 (RX) and PD3 (TX) pins, jumpers J2 and J4 should be placed.

The CN4 (PDI) is used for programming/debugging via PDI interface. The CN5 (JTAG) connector is used for programming/debugging via JTAG interface.

The CN1 and CN3 pads enable the microcontroller pins to be easily accessed. The 3.3V power supply voltage is supplied to the pads marked 3.3V (+3.3V) and GND.

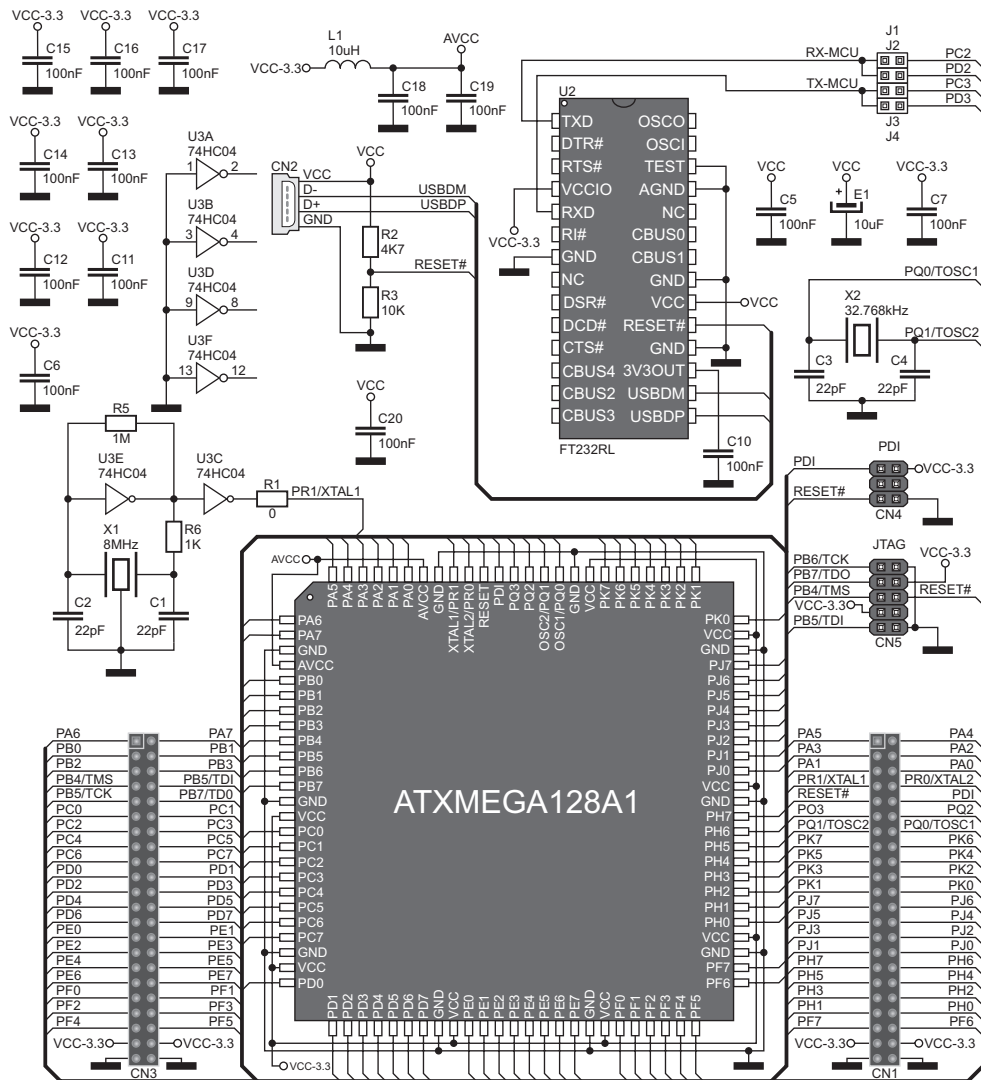


Figure 2: mikroXMEGA development system connection schematic

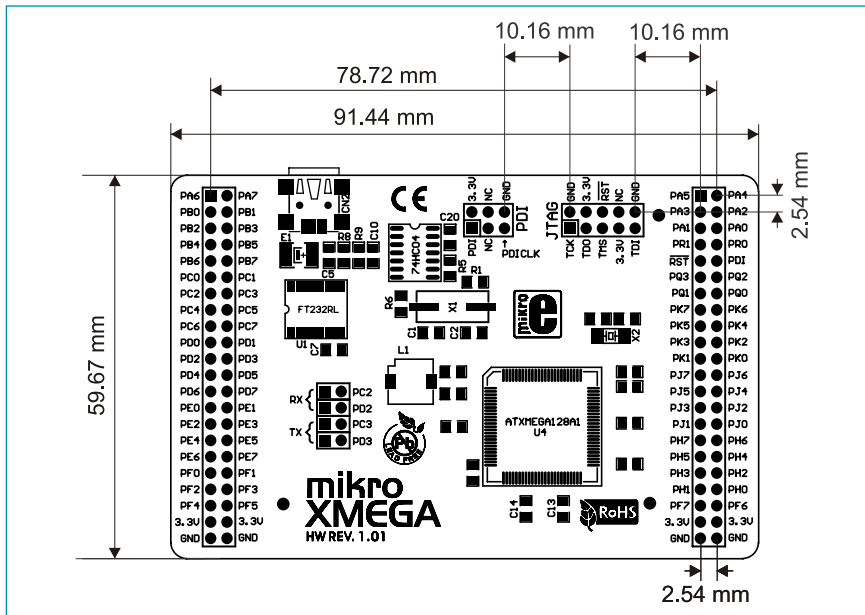


Figure 3: Dimensions of the mikroXMEGA development system

How to program the microcontroller?

STEP 1: Connecting the development system to a PC

The ATxmega128A1 microcontroller is programmed via the bootloader program stored in the microcontroller memory. Connect the development system to a PC via the USB connector CN2. Power the board via two pads 3.3V and GND.

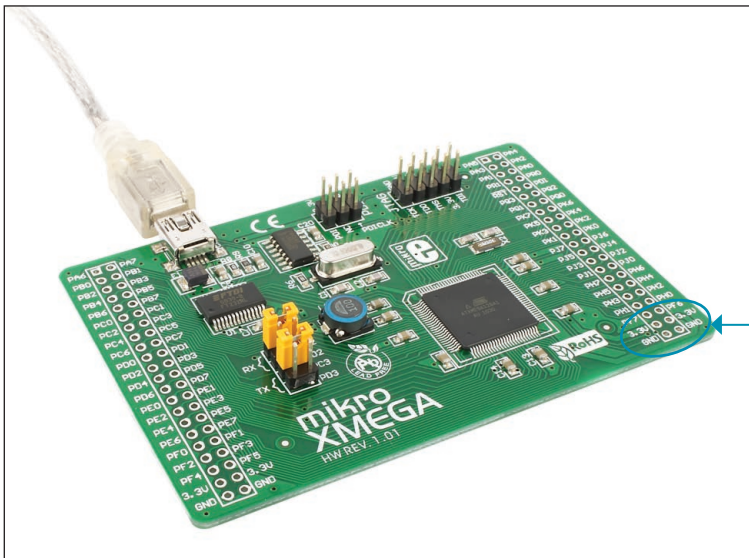


Figure 4: Programming the microcontroller

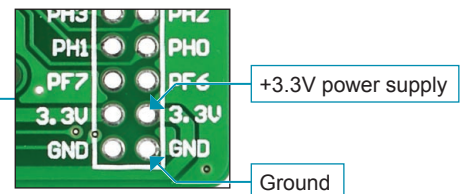



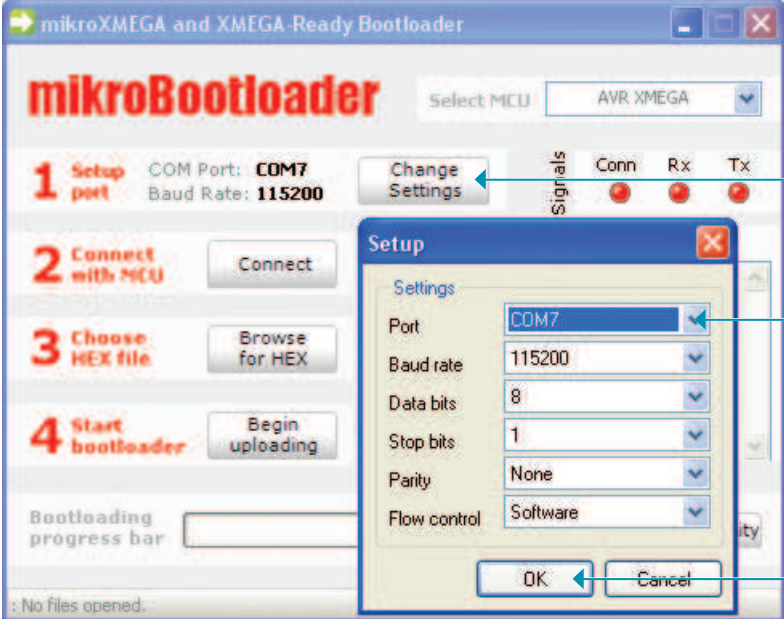
Figure 5: Powering the board

STEP 2: Starting up the mikroElektronika Bootloader program

Download the mikroElektronika USB HID Bootloader program from Mikroelektronika's website at: http://www.mikroe.com/eng/downloads/get/1271/mikrobootloader_xmega_v101.zip

Unzip the file, then double click on the appropriate icon  mikroBootloader
Bootloader tool for mikroElektr...
mikroElektronika

STEP 3: Program settings




The screenshot shows the mikroBootloader application window. The main window has a title bar "mikroXMEGA and XMEGA-Ready Bootloader" and a "mikroBootloader" logo. Below the logo, there are four numbered steps: 1. Setup port (COM7, 115200), 2. Connect with MCU (Connect button), 3. Choose HEX file (Browse for HEX button), and 4. Start bootloader (Begin uploading button). A "Change Settings" button is located next to the "Setup port" section. A "Setup" dialog box is open, showing the following settings: Port: COM7, Baud rate: 115200, Data bits: 8, Stop bits: 1, Parity: None, and Flow control: Software. The "OK" and "Cancel" buttons are at the bottom of the dialog box. Annotations with arrows point to the "Change Settings" button, the "COM7" dropdown in the Setup dialog, and the "OK" button.

Click on the Change Settings button

Select the COM port on the PC that the development system is connected to

Click on the OK button

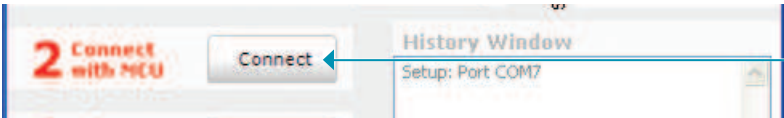


The screenshot shows the Windows Device Manager window. The "Ports (COM & LPT)" section is expanded, showing the following devices: Communications Port (COM1), Printer Port (LPT1), and USB Serial Port (COM7). An arrow points to the "USB Serial Port (COM7)" device.

Select the appropriate COM port from the drop-down list

The Device Manager on your PC contains information about which COM port is used for USB communication with the development system. The COM7 port is used here.

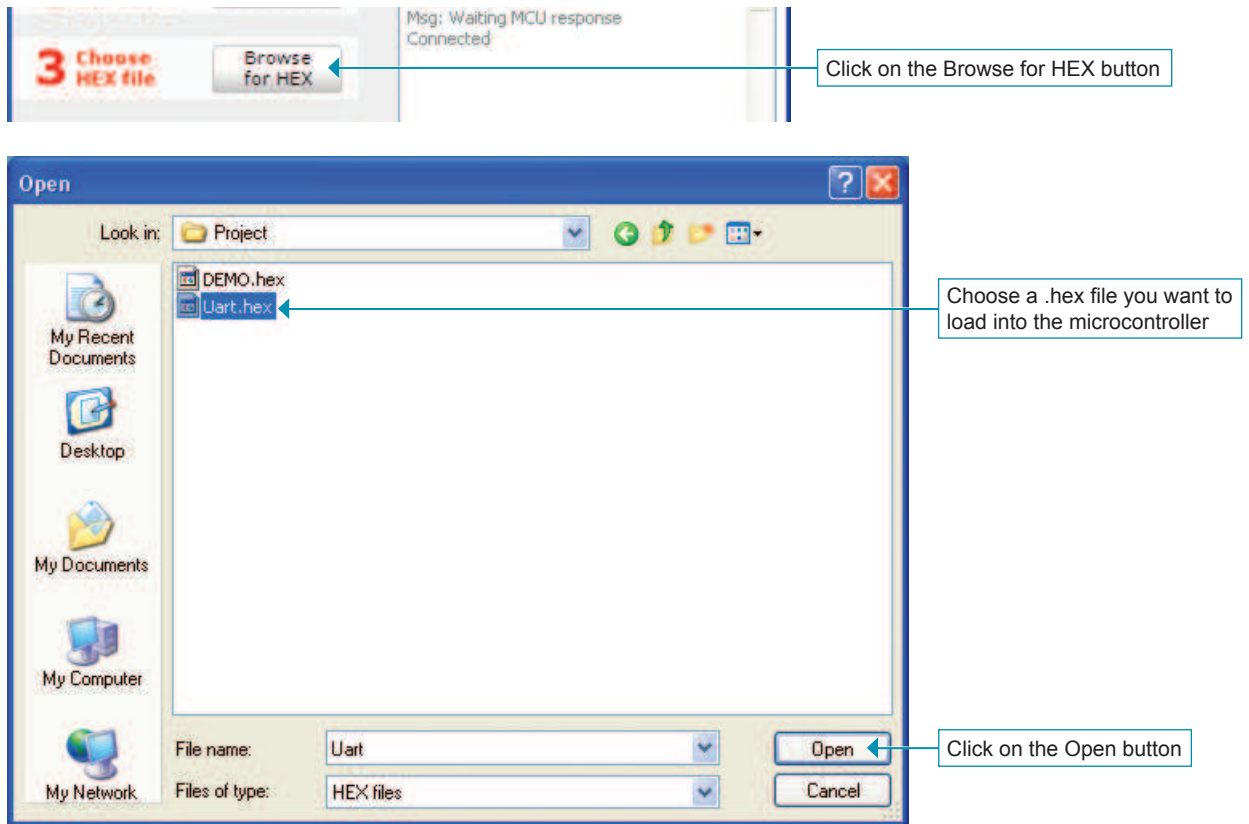
STEP 4: Connecting



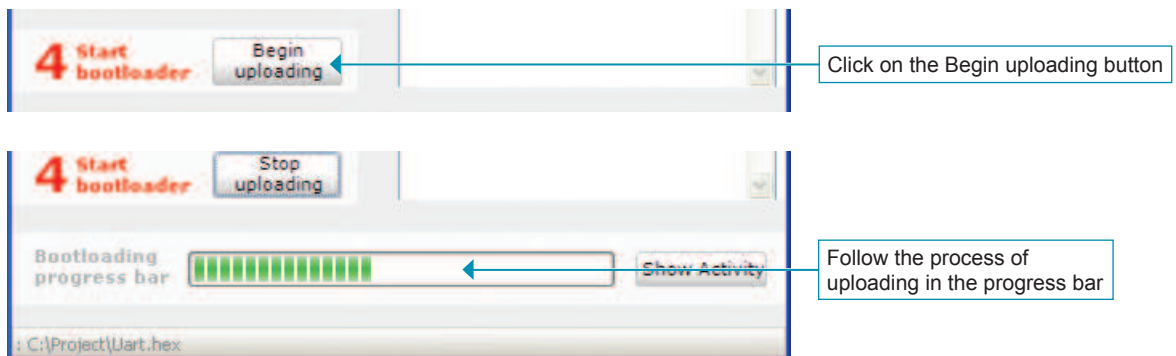
The screenshot shows the mikroBootloader application window. The "Connect with MCU" section is highlighted, showing the "Connect" button. A "History Window" is visible in the background, showing "Setup: Port COM7". An annotation with an arrow points to the "Connect" button.

Click on the Connect button within 5s after the development system is connected to PC

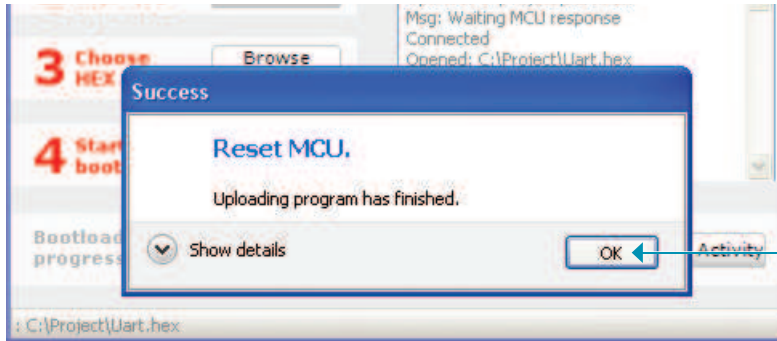
STEP 5: Browsing for .hex file



STEP 6: Uploading the .hex file into the microcontroller



STEP 7: Resetting the microcontroller



After uploading the .hex file into the microcontroller, it is necessary to reset the development system by turning it off for a few seconds and turning it on again. After that, the microcontroller supplied on the development system has been programmed and ready for use.

Click on the OK button

If you want to learn more about our products, please visit our website at www.mikroe.com

If you are experiencing some problems with any of our products or just need additional information, please place your ticket at www.mikroe.com/en/support

If you have any questions, comments or business proposals, do not hesitate to contact us at office@mikroe.com