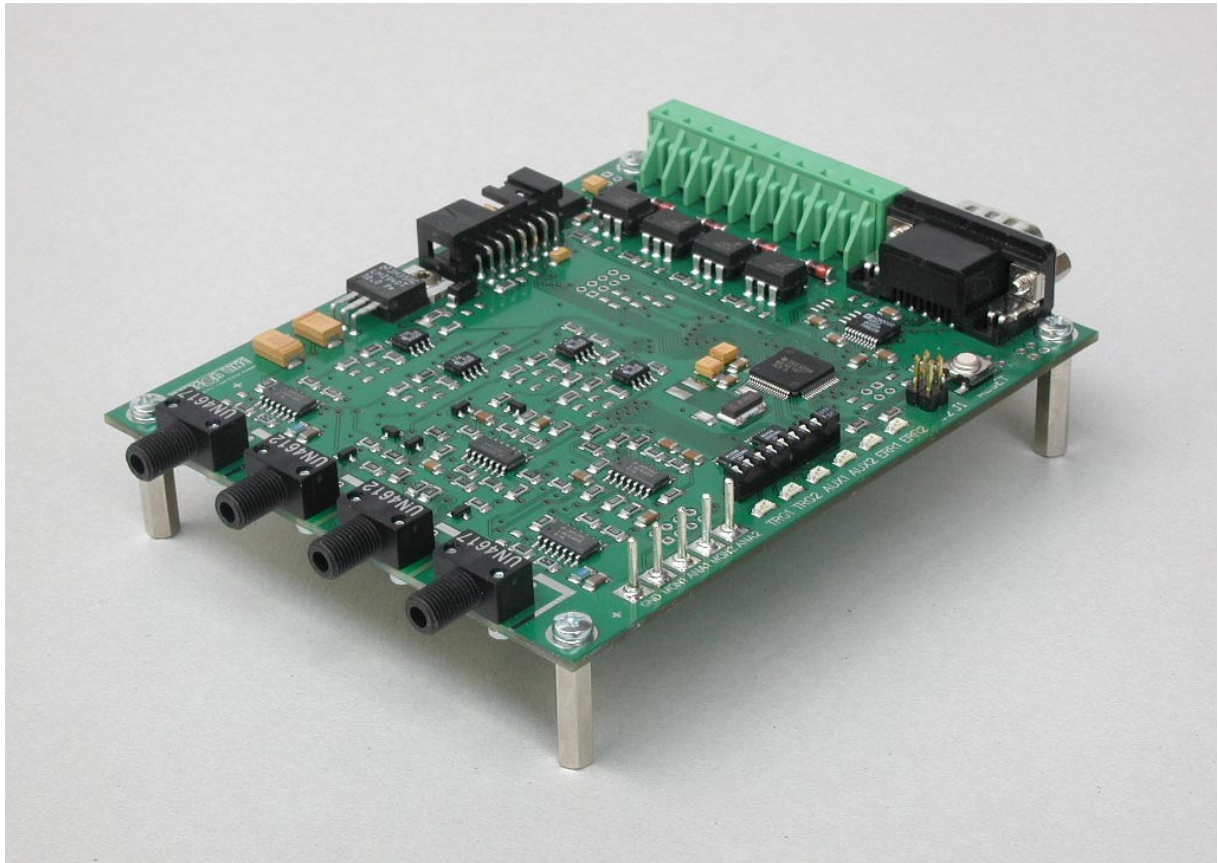


Optical Transmittance Analyzer SL MD-220



PROGRAMMING INSTRUCTIONS

for OLIMEX MSP430-JTAG-TINY-V2

10/2012 – Plamper

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1. Software Installation

1.1 Program Files

- Extract file
 MSPProg_Setup.exe
from archive
 MSP_PROG_GUI_1.3.0.4_CLI_2.0.1.2_DLL_1.0.4.2.zip
- Run MSPProg_Setup.exe specifying installation directory (folder) when prompted.
Default is C:\Olimex\MSP430 Programmer

1.2 Drivers

- Connect the MSP430-JTAG-TINY device to a free USB port of your PC.
- After some seconds the “Found New Hardware Wizard” will detect the device. If it fails to find the driver itself select “Install from a list or specific location” and direct it to the Drivers subdirectory in the program installation directory.

2. Programming

2.1 Preparatory Steps

2.1.1 Handling of the Program File

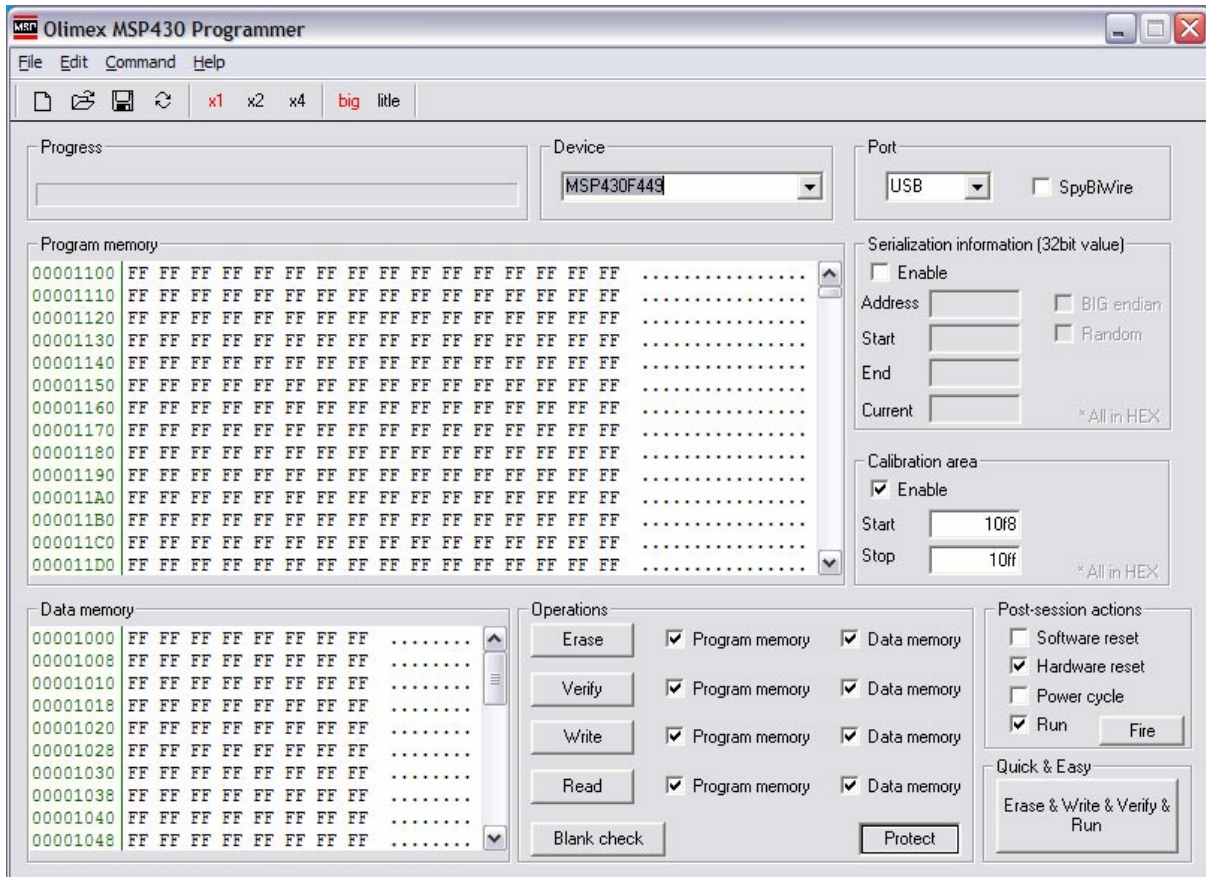
The file which contains the MD-220 program has the extension ".txt". THIS IS NOT A TEXT FILE TO BE EDITED – DO NOT DOUBLE-CLICK ON IT. If you accidentally open it with an editor do not save it because this may corrupt the file. Simply drag the file to a folder of your choice.

2.1.2 Launching the Programming Tool

The setup program installs a shortcut on the desktop which looks like this:



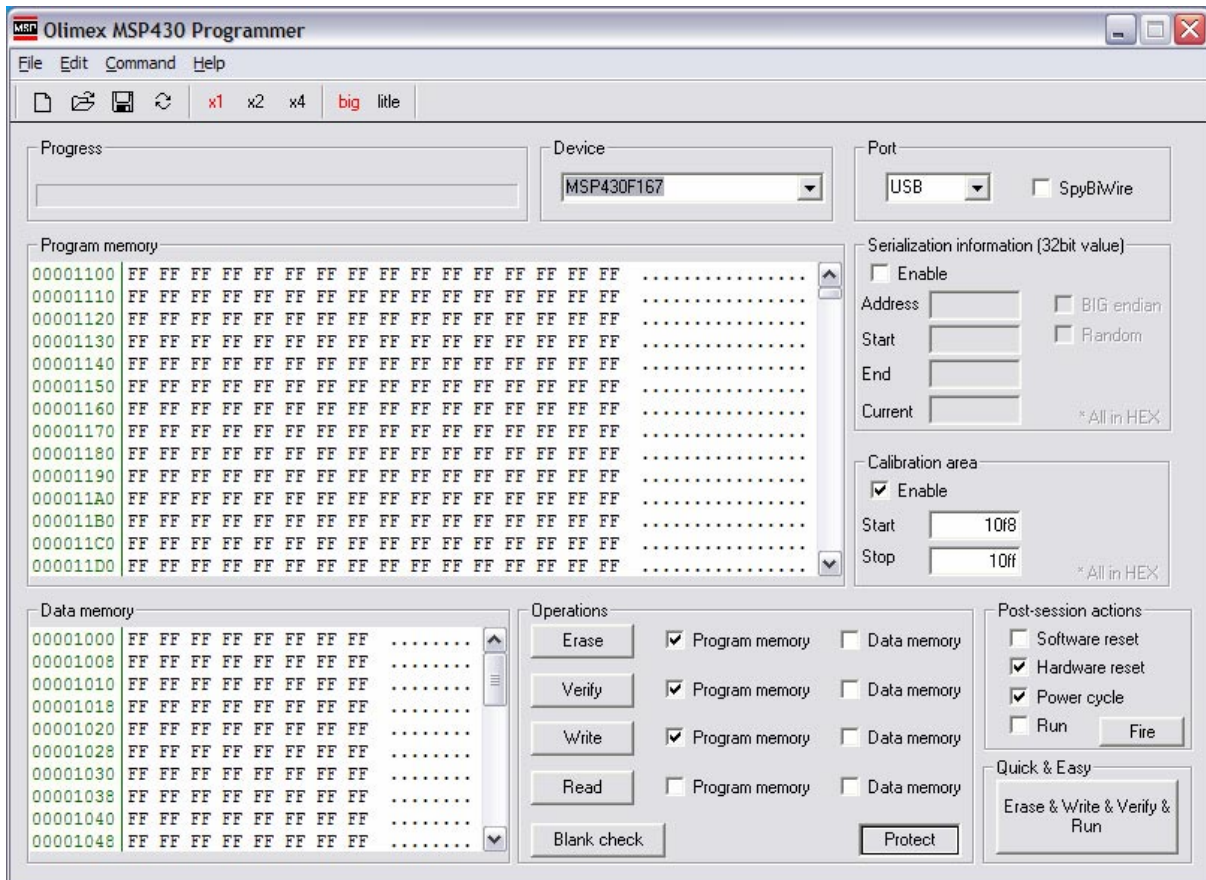
2.1.3 Program Settings



When launched for the first time the programming tool window will appear as shown above.

- To the right of the “Read” button uncheck “Program memory”.
- Uncheck all four instances of “Data memory”.
- Under “Post-session actions” check “Power cycle” and uncheck “Run”.
- Specify the controller under “Device”. Correct entries are:
 - MSP430F167 for standard MD-220
 - MSP430F169 for CLASSAX master boards MD-440-M
 - MSP430F167 for CLASSAX slave boards MD-440-S
 - MSP430F169 for Half-CLASSAX boards MD-240
- Terminate the program by selecting “Exit” from the “File” menu or by clicking the “X” in the upper right hand corner.
- Re-launch the program. Its window should now appear as shown on the next page.

DO NOT click the button "Protect" when the MD-220 is connected.



2.2 Programming Procedure

2.2.1 Connecting the first MD-220

- Disconnect any power supply from the MD-220.
- Disconnect the MSP430-JTAG-TINY device from the USB port.
- Plug the flat ribbon cable of the MSP430-JTAG-TINY device into the JTAG header of the MD-220. There is only one position for the JTAG connector to fit.
- Re-connect the MSP430-JTAG-TINY device to the USB port. The MD-220's controller will be powered by this step, and the LED at the programmer will come on green.

DO NOT click the button "Protect" when the MD-220 is connected.

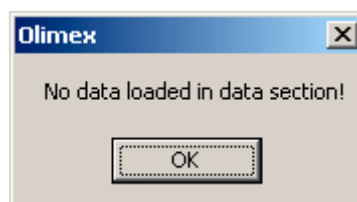
2.2.2 Connecting any further MD-220

- Disconnect any power supply from the MD-220.
- **Do not** disconnect the MSP430-JTAG-TINY device from the USB port.
- Plug the flat ribbon cable of the MSP430-JTAG-TINY device into the JTAG header of the MD-220. There is only one position for the JTAG connector to fit. The MD-220 should **not** be powered by this step.

DO NOT click the button "Protect" when the MD-220 is connected.

2.2.3 Loading the Executable Program File

- In the "File" menu select "Open...". The common File Open Dialog will be displayed.
- Under "Files of type:" specify "Text Files (*.txt)"
- Browse to the location of your executable and select it.
- The program will now complain



- Click "OK"

Note: The message will now appear each time you launch the program because the last file is always reloaded on startup.

2.2.4 Programming

- Click "Erase & Write & Verify & Run" in the lower right hand corner of the window. The LED at the MSP430-JTAG-TINY device will change its color to red and the MD-220 will become powered.
- Wait until the status message "Ready!" is displayed under "Progress" in the opposite corner. The MD-220 will then remain powered for a moment and its red ERRx LEDs will flash. Wait until this flashing stops and the red LED at the programmer turns to green again.
- The JTAG connector can now safely be pulled from the programmed MD-220 and plugged into the next one.

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