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LaPi Development Kit Getting Started Guide

1. Your LaPi board ships with jumpers pre-configured so that the ML610Q112 communicates with the USB interface, the power is provided by USB and the RESET is controlled by the button on the board (see LaPi User's Manual - Rev 2.4.pdf for further details). Verify that the jumpers should be set so that:

    a. J12 & J13 = Q112 - Set so LaPi GUI communicates with the Q112
    b. POWER provided by USB (J2 controls 5V or 3.3V, J7 = USR USB power)
    c. J14 – Set so RESET is controlled by the Reset button

Steps 2 through 5 explain how to use the PC based GUI to control the ML610Q112

2. The GUI, which is designed to communicate with a program already programmed on the device, so that the device understands the GUI's USB instructions and uses the commands to control basic functionality on the device without the use of the debugger. If you are going to use the GUI, install FTDI Virtual Com Port USB drivers (see LaPi User's manual for further details) from the FTDI driver support website: http://www.ftdichip.com/Drivers/VCP.htm.

    a. The Reset jumper (J14) should be in the USR position when using the GUI.

3. Copy the contents and subdirectories of the directories **..\\LaPi_StartingSoftware_REV01\LaPi - PC Application** and **..\\LaPi_StartingSoftware_REV01\LaPi - PC App Documentation** from the USB stick included with this kit to a similarly named directory on your computer. These folders contain the source code and detailed documentation for the GUI application.

4. Connect the LaPi board to a computer via a micro USB cable.

5. Start the GUI by clicking on the program **LaPi_ControlSoftware_1-14-2014_rev01.exe** which is in the **\\LaPi – PC Application** folder that you copied to your computer.

Steps 6 through 9 explain how to use the SW Design, Development and Debugging tools to control the basic operation of the ML610Q11x devices. The debugger can be used with the PC based GUI application or any other application code running on either of the Mini LP Micros on the board.

6. To control and modify the code that is running on the ML610Q11x, install the U8 Code Development tools Integrated Design Environment (IDE) from the CD included with the nanoEase. (the U8Dev Suite includes 18 manuals to help you become familiar with LAPIS' micros, the development tools, the nanoEASE debugger, and more). Follow the instructions in the **ReleaseNote_e.pdf** while installing the tools.

    a. The tools provided with this kit may not be the most up to date. To get the latest LAPIS U8 tools go to this website: https://www.lapis-semi.com/customer/lpmcu/login.htm

    b. The application code provided with this kit may not be the most up to date. To check please send an e-mail to: LaPiDevKitSupport@rohmsemiconductor.com

7. The source code for the application code that is programmed and runs on the device, other sample projects, and related documents such as PCB design files, and daughter board templates are provided on the USB memory stick that is included with this kit. Copy the contents of the **LaPi_StartingSoftware_REV01\LaPi - Q11x - Default Firmware (Release)** directories from the USB stick to a similarly named directory on your computer. (x = 1 or 2 depending upon which device you are targeting).

8. Using the U8 IDE icon placed on your Desktop or **Start -> Program Files -> U8 Tools -> nX-U8 -> IDEU8 GUI Environment**, start the IDEU8 Code Development Tools for the LAPIS micros.

    a. Using **File -> Open** select the project file **Q112-DefaultFirmware.PID** in the directory **\LaPi_StartingSoftware_REV01\Lapi - Q112 - Default Firmware (Release)**

9. Connect the nanoEase to the board, being careful to align it correctly per the instructions in the section of the LaPi User's Manual document titled nanoEASE Debugger Connection.

    a. Verify that the Reset jumper (J14) is in the nanoEase position.

10. Start the DTU8 Debugger by clicking on **Project -> Debug**. Refer to the Debugger manual for detailed instructions on using the debugger.

11. If you have any questions send an e-mail to: LaPiDevKitSupport@rohmsemiconductor.com

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