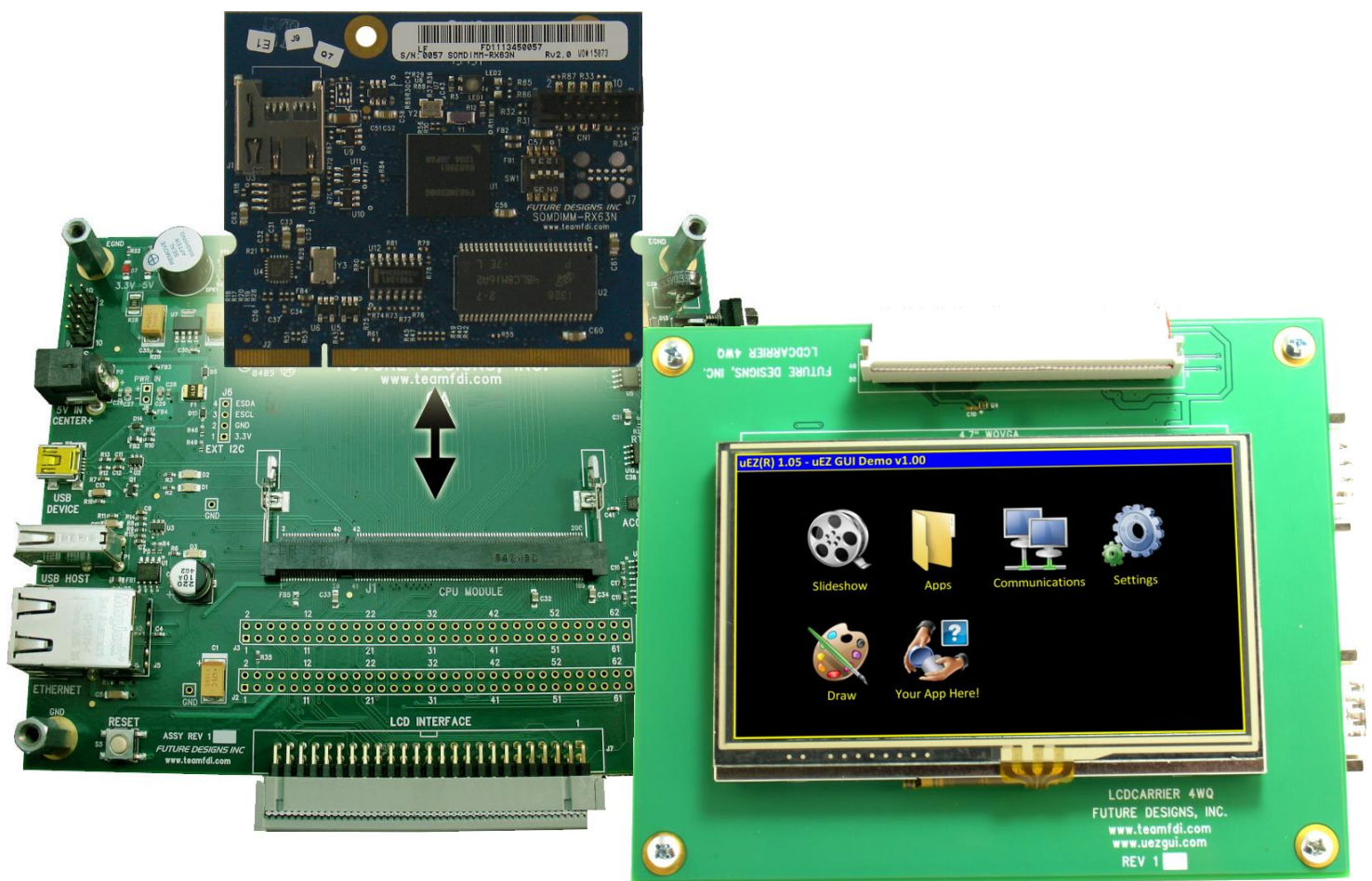# Quick Start Guide for RX63N Touch Screen LCD Kit

Covers the following products:

DK-43WQT-RX63N (4.3" LCD)

DK- 47WQT-RX63N (4.7" LCD)

FDI **Future Designs, Inc.**
Your Development Partner
996 A Cleaner Way, Huntsville, AL 35805

1. Introduction

The DK-TS-KIT is optimized to save development time in typical embedded control applications. Its modular format uses a base carrier board, a core CPU DIMM board and an LCD carrier board. The base carrier board includes expansion connectors for added flexibility and a range of configurations.

This Quick Start Guide supports the following DK-TS-KIT part numbers:
- **DK-43WQT-RX63N** 4.3" WQVGA Touch Screen LCD Kit for the RX63N
- **DK-47WQT-RX63N** 4.7" WQVGA Touch Screen LCD Kit for the RX63N

2. Kit Contents (FDI PN: DK-4XWQT-RX63N)

- DK-TS-RX63N Touch Screen Kit with LCD
- 5V Power Supply
- Quick Start Guide
- Segger Mini-JTAG Debugger and JTAG cable and FDI JLINK RX adapter board
- 2GB microSD Card
- Ethernet Cable
- USB Cables (x1)

3. Useful links

Complete Users Manuals, Schematics, and documentation are available on the Micro SD card provided with the DK-TS-KIT and are also available from the following websites (please refer to the websites for the latest updates):

- Future Designs Support Page - https://www.teamfdi.com/support
- uEZ Source Code - https://sourceforge.net/projects/uez/
- Segger Mini-JTAG Debugger (J-Link Lite RX) - http://www.segger.com/cms/j-link-rx.html
- Renesas HEW IDE download - http://www.renesas.com/products/tools/ide/ide_hew/index.jsp
- uEZ software quick start guide - https://www.teamfdi.com/uez/files/MA00015%20uEZ%20Software%20Quickstart%20Guide.pdf

USB Host and USB Device drivers for the RX Family under FreeRTOS / uEZ® are currently under development by FDI and Renesas but are not yet available. Please consult our website at https://www.teamfdi.com/ for updates on availability of these RX drivers or email us at support@teamfdi.com for more information.

4. Startup procedure

A. Insert the microSD card into the SOMDIMM-RX63N provided with the kit. The SD card contains the files required for the slide show to run. This will allow the slideshow to operate once the unit is powered up.

B. Connect the included 5V power supply to the DK-TS-KIT power connector (P5). The power supply MUST be a regulated 5VDC, 2.1mm, center positive power supply. The use of ANY other power supply may result in damage to the kit and subsequently, void the warranty.
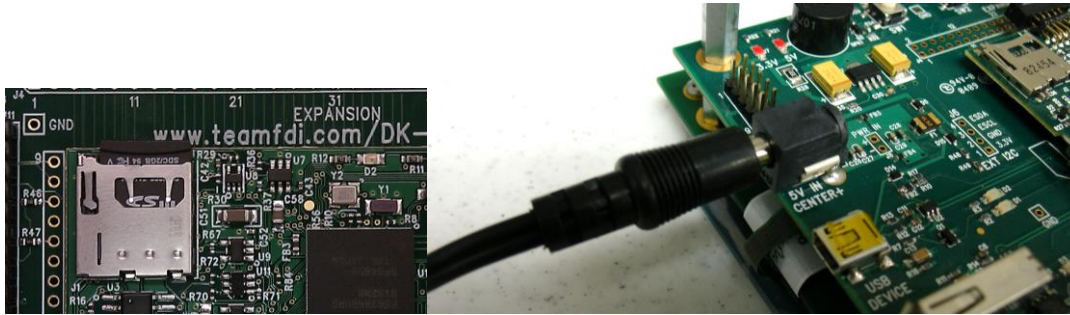
C.   The following screens should appear once power has been applied to the kit:
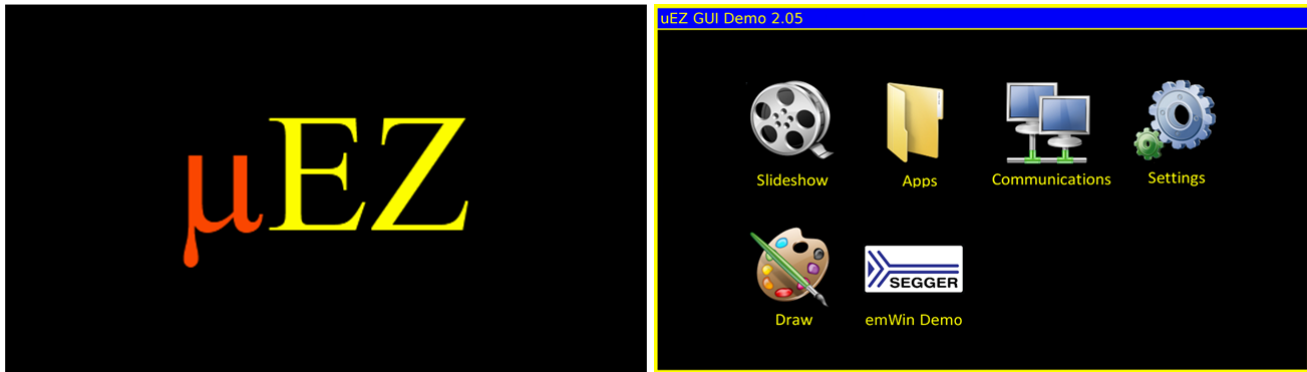
D.   At this point the unit is ready for software demonstrations.

5. Demonstration Software Main Menu

The Demonstration Software has the following options:

Slideshow
Selecting the slideshow icon will cause the Micro SD card to be read. This demonstration allows the user to select between several slideshow options such as "uEZGUI Family Overview", "Demonstration Pictures", "uEZ Software Overview", "Modular Development Kit", etc. Select the slideshow to view by touching the menu entry for it on the touch screen. By touching the screen during the slideshow, the menu overlay will appear. Select the play button (green) to begin the automated slide show. Touch the "||" button to pause the slideshow. The user can switch to the next slide by touching the ">" or "<" menu buttons, or by "dragging" the screen up or down. Click on the "X" to return to the main menu.

The following programs appear under the "Apps" icon:

Accelerometer
Selecting this icon demonstrates the accelerometer feature by moving a simulated ball across the screen as the board is tilted along the X and Y axis. To return to the main menu touch the exit icon.

Time and Date
This feature displays the current time and date from the internal Real Time Clock (RTC). To change the time or date simply click on the section you want to change and increase or decrease using the up and down indicators. Once set an on-board super capacitor will back-up the time and date for several days (typically) if the unit is powered off. To return to the main menu touch the exit icon.

Temperature

Selecting this icon displays the temperature from the LM75 temperature sensor. To select between Celsius and Fahrenheit click the "C' or "F" to change. To return to the main menu touch the exit icon.

Exit the "Apps" Icon to the main screen and the following programs are available

The following programs appear under the "Communications" icon:

Console

This option is only valid with an active Ethernet connection accessible by a PC. Select the icon to start a telnet server on port 23. Telnet to port 23 on the unit's IP address from a PC to access the standard serial console over a telnet connection.

The following programs appear under the "Settings" icon:

Brightness

Selecting the brightness icon shows a menu with color bars and a brightness adjustment slider.

Move the slider up or down to adjust the brightness. There is a check box in this menu that can turn the screensaver demonstration on or off. By default it is turned off. When enabled, the screensaver will dim the screen and then display a moving uEZ logo icon all over the screen. When the screen is touched again, it will return back to the current menu view.

Calibrate

Use this feature to calibrate the LCD for the first time or if corrections are required. This feature draws 5 targets on the screen. They should be pressed as they appear using the provided stylus. If the calibration data is valid it will be saved. This menu will also appear if the touch screen is pressed during boot-up.

Functional Test is a step by step test of the following parameters:

- Speaker test
- LCD color test
- SDRAM size test
- Temperature
- EEPROM test
- NOR Flash Memory test

Draw

A very simple art program is provided. Use the touch screen to draw lines in the box to the right. Clicking on **Color** allows the color to be changed between various options. Hint – use black to erase. **Save** stores the graphic image as the file IMAGE.RAW on the Micro SD card. **Load** recalls the saved graphic image from the Micro SD card.

emWin Demo

If present, this runs a demonstration of various emWin graphical demos.

See http://www.segger.com/emwin.html for more details.

Examples are available here for reference: http://www.segger.com/emwin-samples.html