

SKP16C1N Software Installation

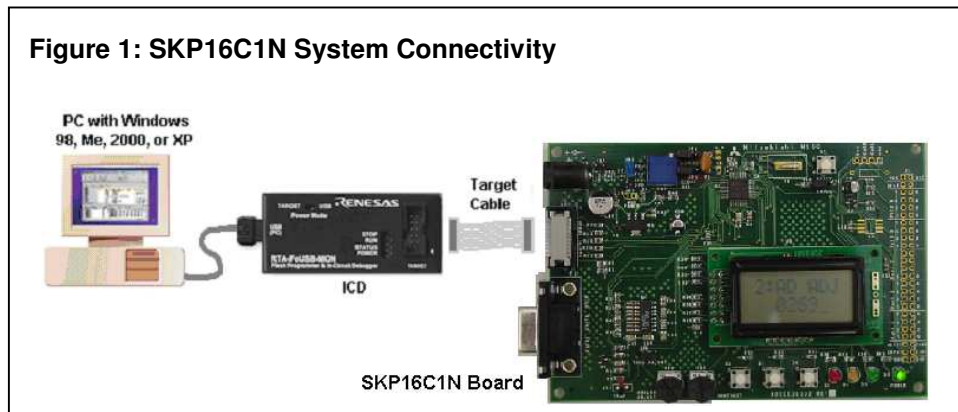
1. Please insert the enclosed CD to your computer's CD-ROM drive. The CD should auto start and display the starter kit welcome screen and start software installation. If it does not come up, please browse the CD root folder and double-click on '**SKP_Installer.exe**'.
2. During the SKP install, dialog boxes will come up prompting you on whether you would like to install the development tools or not. The development tools will allow you to evaluate the different features of the M16C/1N microcontroller and the software development environment (debugger, compiler, linker, etc.).

SKP16C1N Board Demo Program

The board has a demo program that functions as a 12 hour clock and temperature display. To run the demo follow the steps listed below.

1. Connect the USB Monitor board to the board using the supplied ribbon cable.
2. Connect the USB Monitor to a USB Port of the PC using the supplied USB cable. The supplied USB cable is keyed for the Mini USB connector of the USB Monitor board. The power light of the board should come on and the demo program will start. If the Power light of the MDECE30102 board does not come on, set S1 selector of the USB Monitor to the "BUS Powered" position..

3. When the demo program starts, the LCD on the board will display a welcome message (adjust LCD contrast if needed). After about 2 seconds “SET HOUR” will be displayed on the LCD.
4. While “SET HOUR” is displayed, use the S3 button to decrement and the S4 button to increment the hour setting. Use the S2 button to enter the “SET MIN” mode.
5. While “SET MIN” is displayed, use the S3 button to decrement and the S4 button to increment the minute setting. After setting the minutes, press the S2 key to display the time and temperature.
6. Press the S2 key to cycle between degrees F and degrees C. Pressing the S4 button will cause the demo program to enter back into the “SET HOUR” mode.
7. The amber color LED will flash ON and OFF on a 2 second interval. With the main oscillator running the green LED is lit. When the main oscillator is stopped, the red LED is lit.
8. To demo the oscillation stop detection function of the M16C/1N MCU, remove the crystal resonator from the board, and “ MAIN OSC STOPPED will be momentarily displayed on the LCD and the red LED will illuminate. Reinsert the crystal resonator and “MAIN OSC RUNNING” is shortly displayed and the green LED will light.



USB Driver Installation

When you connect the ICD to your computer for the first time, Windows will recognize the new hardware (ICD) and will request for the drivers. Follow the steps below to install the drivers. *Administrator privileges are required to be able to install the ICD driver on Windows 2000/XP machine.*

1. When the ‘Found New Hardware’ window comes up, click on the ‘Next’ button.
2. Select ‘Specify a location’ and leave all other options un-checked.
3. On the ‘Specify a location’ dialogue box, browse and locate C:\Mtool\FoUSB\USB Drivers folder.
4. Click on ‘Ok’ to install the USB Driver. *For Windows XP, a dialog box is displayed warning you that the driver has not been tested for Windows XP compatibility. Please disregard this warning and continue driver installation.*
5. You can verify that the driver is installed properly by looking at how fast the Status (yellow) LED is blinking on the ICD. If the driver is loaded correctly, the Status LED will be blinking once every second. If not, the Status LED will blink 2-3 times a second (if you continue having driver installation problems, see SKP16C1N User’s Manual, Appendix A. Troubleshooting).

KD30 (Debugger) Quick-Start

1. Connect the SKP16C1N as shown in figure 1.
2. After plugging the USB cable to the PC, the power light on the SKP16C1N Board should come on. Run the debugger KD30 (“Start” > “Programs” > “Renesas-Tools” > “KD30 V3.xx Release x” > KD30).
3. The “Init” dialog box (Figure 2) should open. Click on The “Refer...” button and select ‘M301N2F8.mcu’.
4. Select USB and click “OK”. If you get an error, check connectivity and verify that the “POWER” LED on the SKP16C1N Board is on.
5. Click on ‘OK’ to update the ICD firmware, when a ‘We should download new firmware.’ message is displayed.
6. After initialization, the KD30 Program Window will appear.
7. Click “File” > “Download” > “Load Module”. Assuming the SKP software were installed in the default directory, open the file: **C:\MTOOL\SKP16C1N\Sample_Code\SKP\CANdemo\release\CanDemo.x30**. After downloading the module, the Program Window should look like Figure 3.

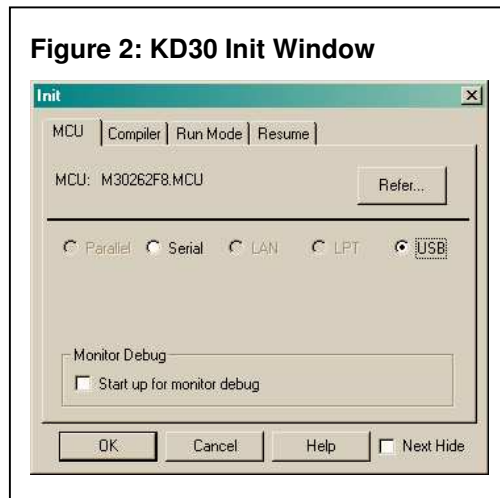
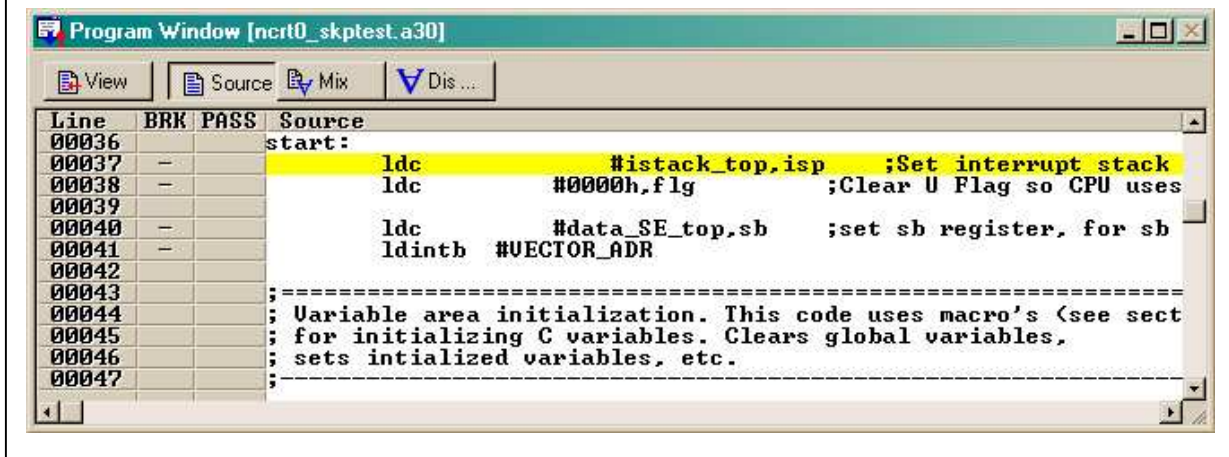




Figure 3: KD30 Program Window after download of skptest.x30.



8. Click the  icon to start the program running. The skptest.x30 program works similar to the demo program but LED's are not blinking sequentially. The LED's are off unless any of the user switches is pressed.
9. Clicking the  icon will halt the program. Now, if you click the “Go” button, the program will resume execution at the point it stopped.
10. To exit KD30, click on “File” > “Exit”.

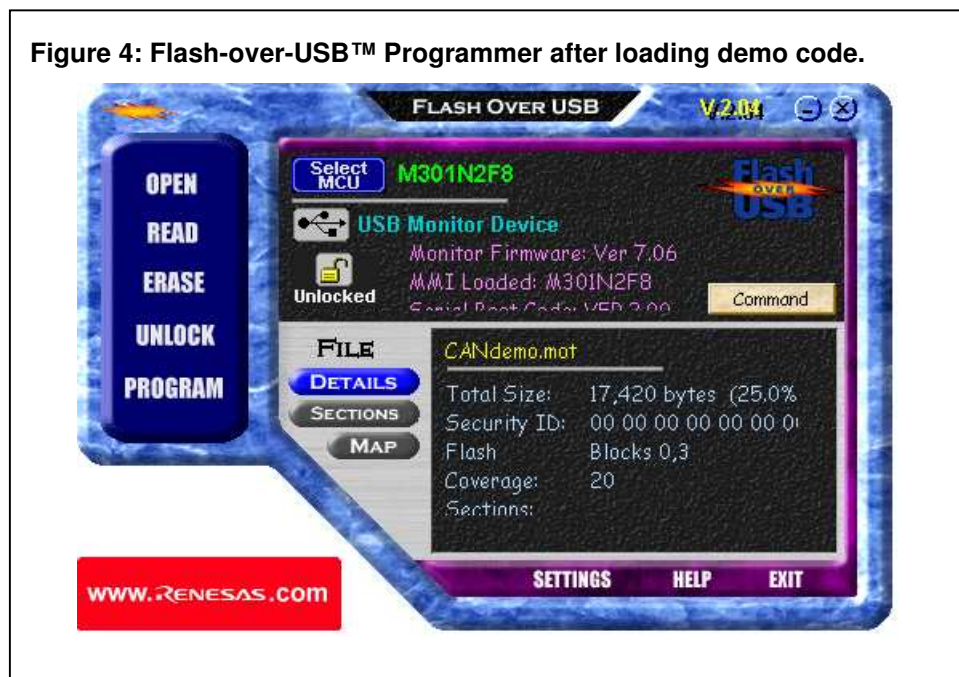
Downloading (re-loading) the Demo Program using Flash-over-USB™ Programmer

After running KD30 on the SKP16C1N Board, the original program was erased in place of the downloaded program. You can use the Flash-over-USB™ Programmer to restore the original demo program.

1. Connect the SKP16C1N as shown in figure 1 and start Flash-over-USB™ Programmer (“Start” > “Programs” > “Renesas-Tools” > “Flash-over-USB Ver. x.xx” > “FoUSB Programmer” or double-click on “FoUSB” icon on your desktop).
2. The first time FoUSB Programmer is opened on your computer, the programmer will ask you to select an MCU. Click the Select MCU button and then select ‘M301N2F8’ from ‘M16C/20 Series’ in the Chip Selection menu.
3. After verifying that a USB Monitor device has been connected, click on “Open” and select “CANdemo.mot” from the **C:\MTOOL\SKP16C1N\Sample_Code\SKP\CANdemo\release**. Please see figure 4.
4. Click on “Program” to open Program Flash window.
5. Click on “Program” button to download demo program.
6. After download is complete, click on ‘Exit’ to close Flash-over-USB Programmer and the demo program should start.

For more information on how to use the Flash-over-USB™ Programmer, click on the 'Help' button.

Figure 4: Flash-over-USB™ Programmer after loading demo code.



What's the next step?

After you have completed this quick-start procedure, please review the tutorials that came with the kit. The tutorials will help you understand and jumpstart the software development process using Renesas' development tools. You can access the tutorials from the Start Menu (“Start” > “Programs” > “Renesas-Tools” > “SKP16C1N” > SKP Tutorial 1 or 2) or from “Document Description” (“Start” > “Programs” > “Renesas-Tools” > “SKP16C1N” > “Document Description”), which also list other documents that come with the SKP.

If you require additional information, please contact your Renesas sales representative or send an email to techsupport.rta@renesas.com