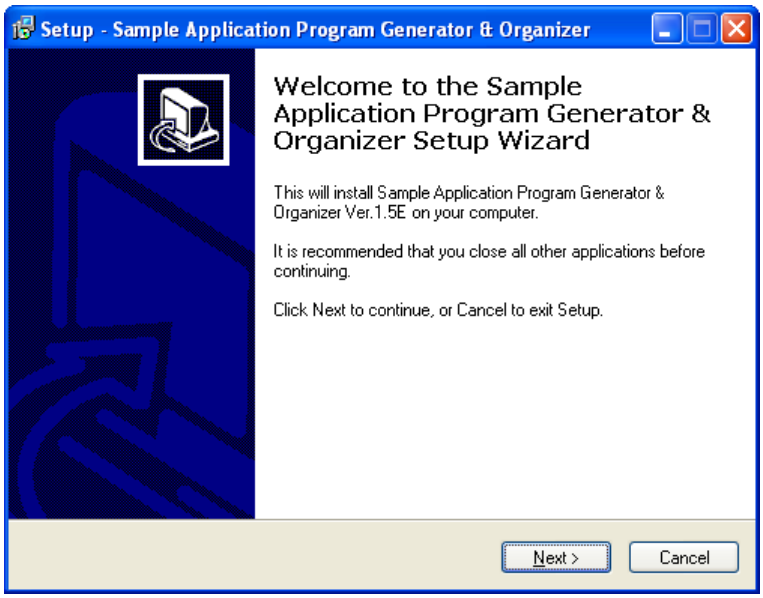
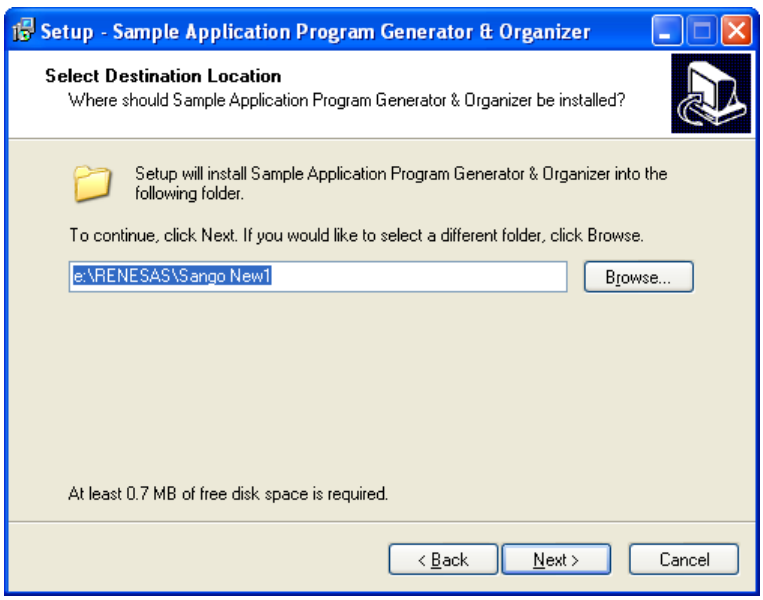
Installation of Sango – Part I.

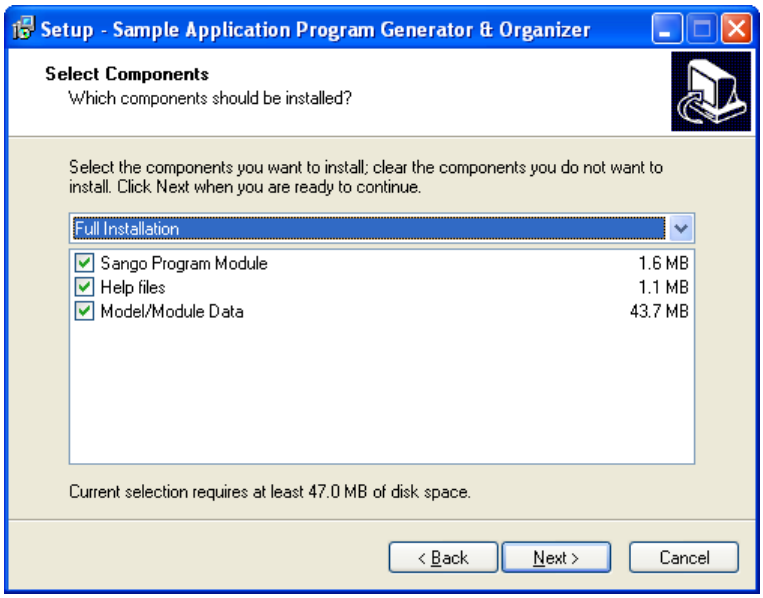
To install the part I of Sango developed by Renesas Japan, Execute the file Setup.exe in the folder "**Contestdownloads\Sango Part I**". This will install Sample Application Program Generator & Organizer Ver.1.5E on your computer.



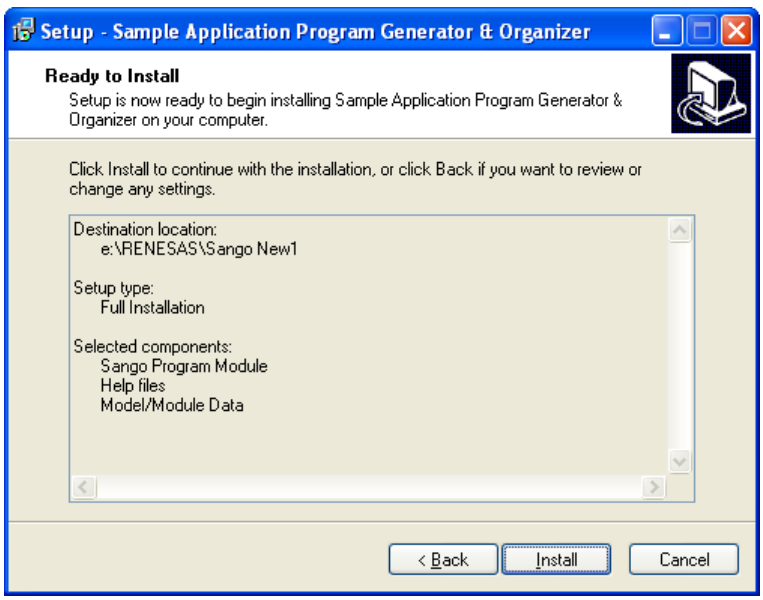
Click Next button. Next select the folder where you want to install Sango.



After entering the folder click **Next** button.



Select **Full Installation** and click **Next** button. Now installer will display the location and selected options in a window.

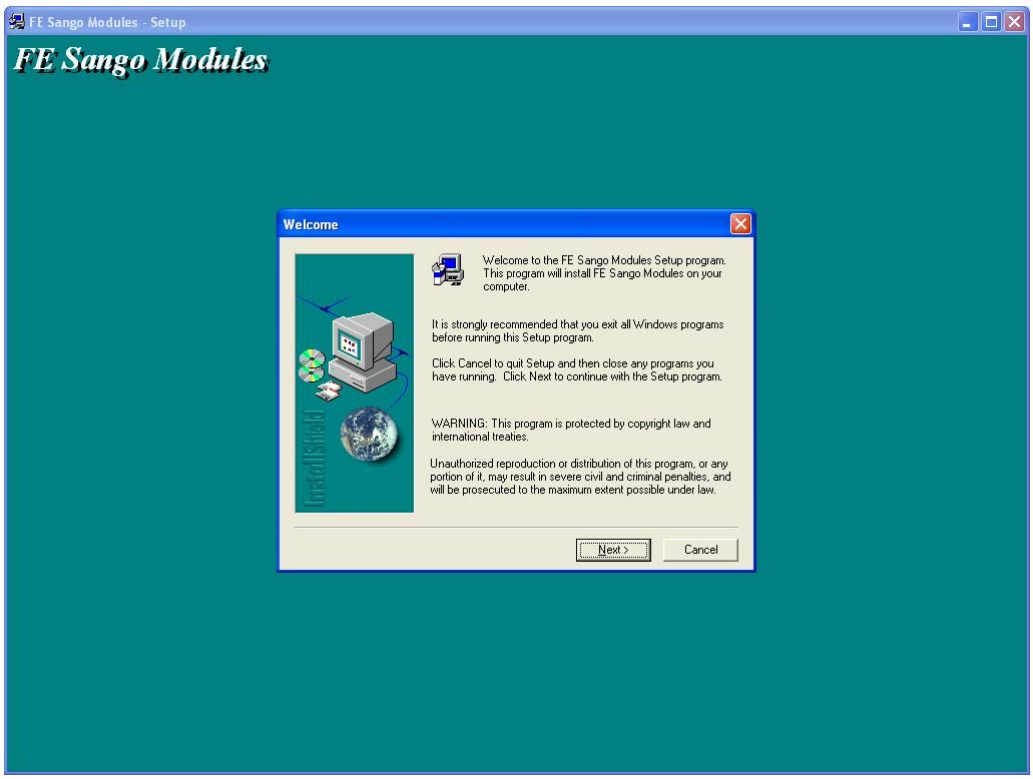


Click **Install** button to finish installation of Sango Part I.

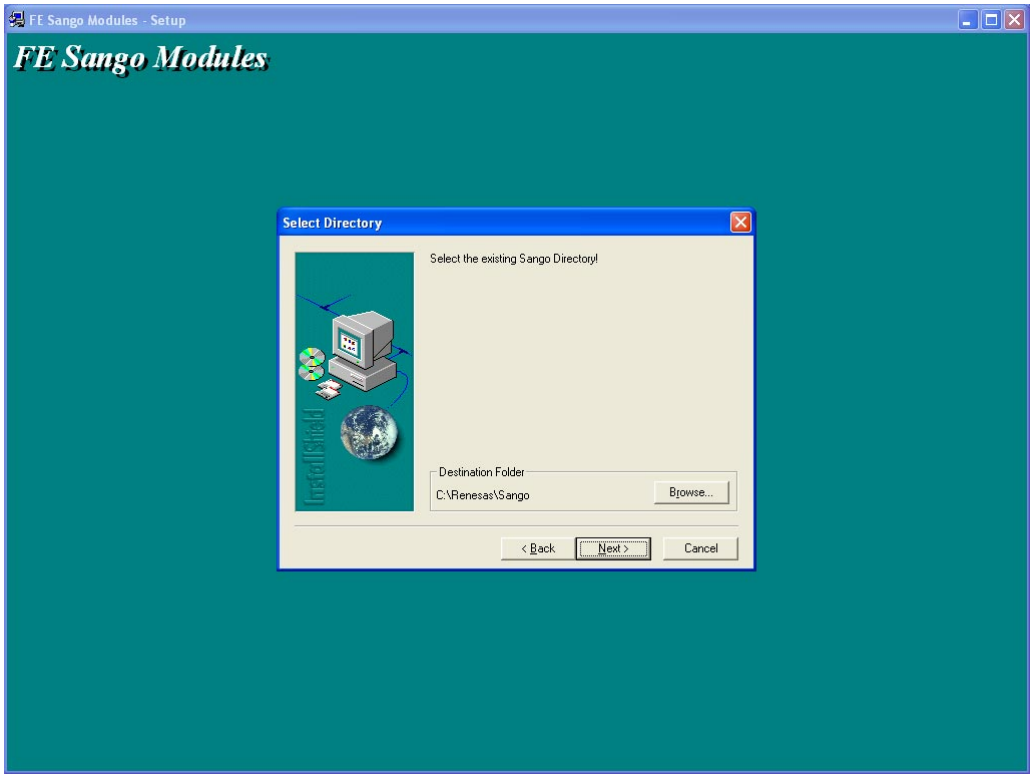
Installation of Sango – Part II.

To install the part II of Sango developed by Frontline Electronics India, Execute the file **Setup.exe** in the folder "**Contestdownloads\Sango Part II**".

This will open the installation program for Sango part II and display the opening screen as shown below:

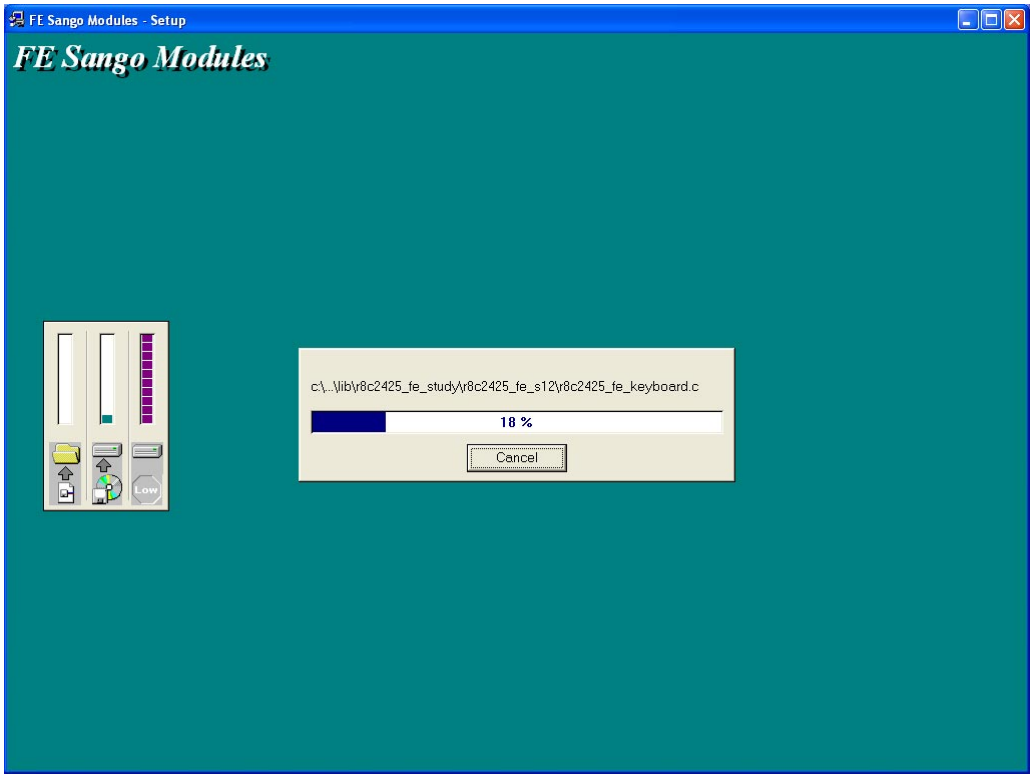


Click **Next** button. Installer will prompt for the location of Sango part I you have already installed.



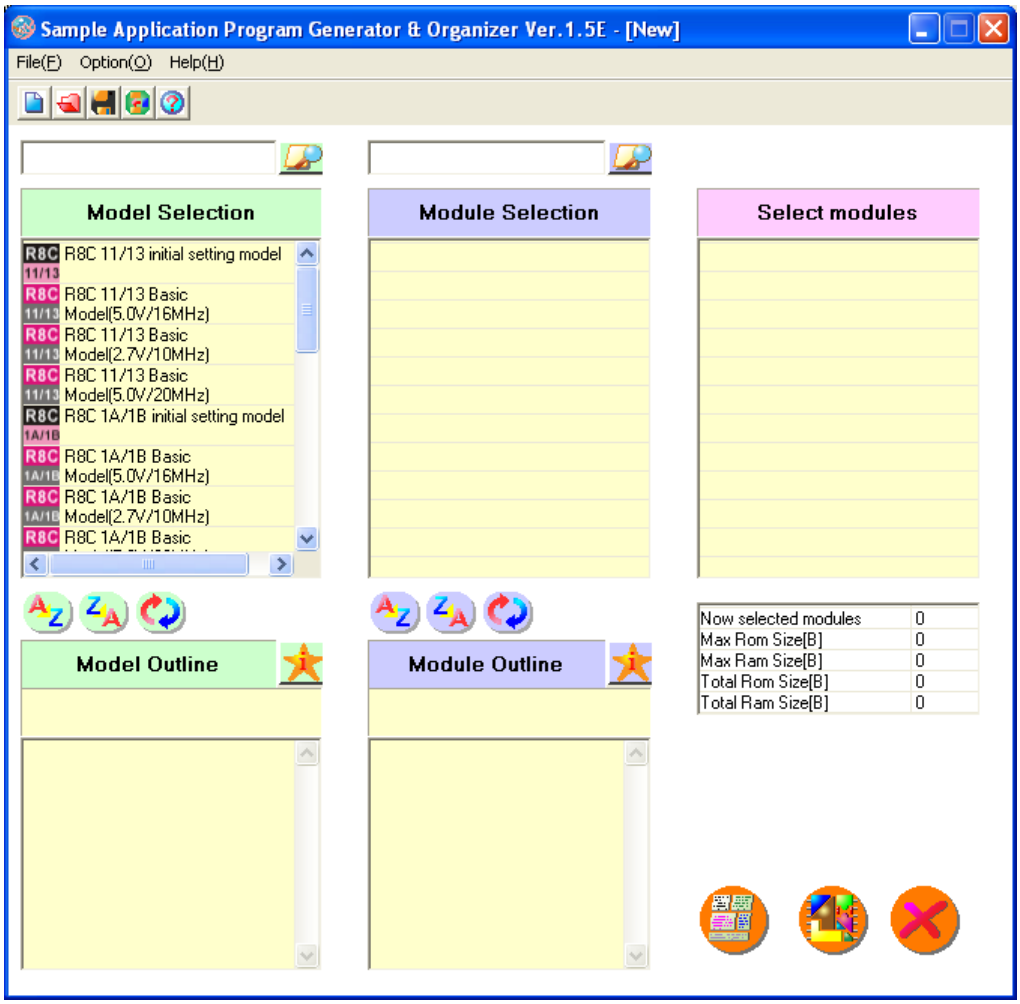
Click "**Next**" if the default directory is correct, otherwise use "**Browse**" button to give the correct location.

After the click of "**Next**" button, installer will install the part II of Sango in your computer with the progress bar as shown below:

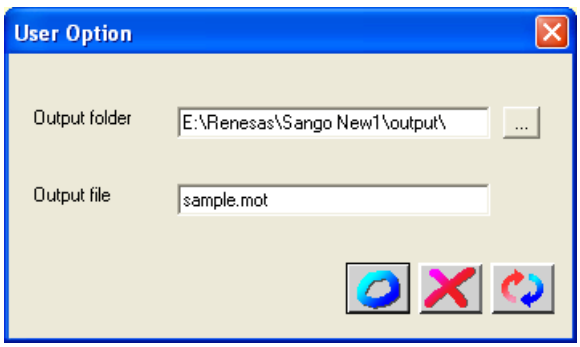


Generating application Codes using Sango.

Start Sango. The main window will be displayed as shown below:



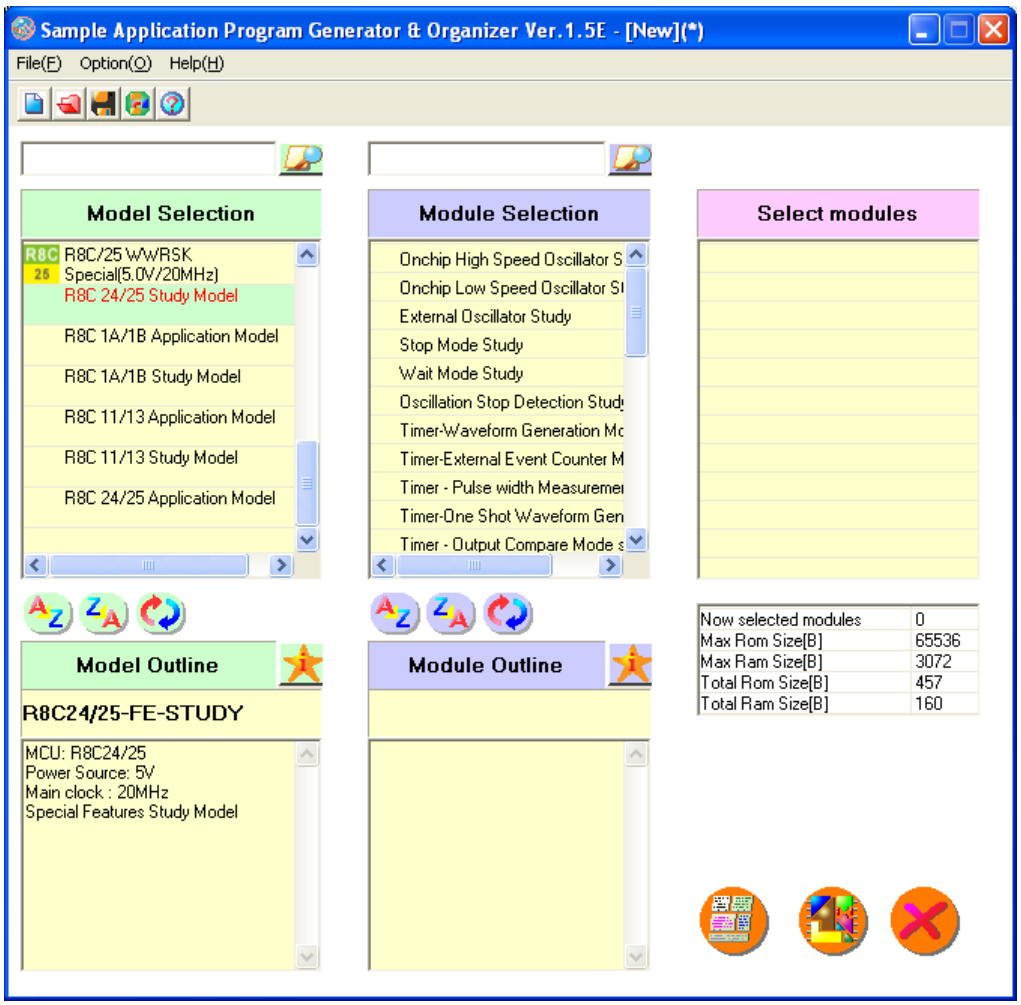
First select the output directory to store the generated code. For this, select the command **User Option** from **Option(O)** menu. It will display a small window to get the output directory and the file name. Here the filename is not very important.



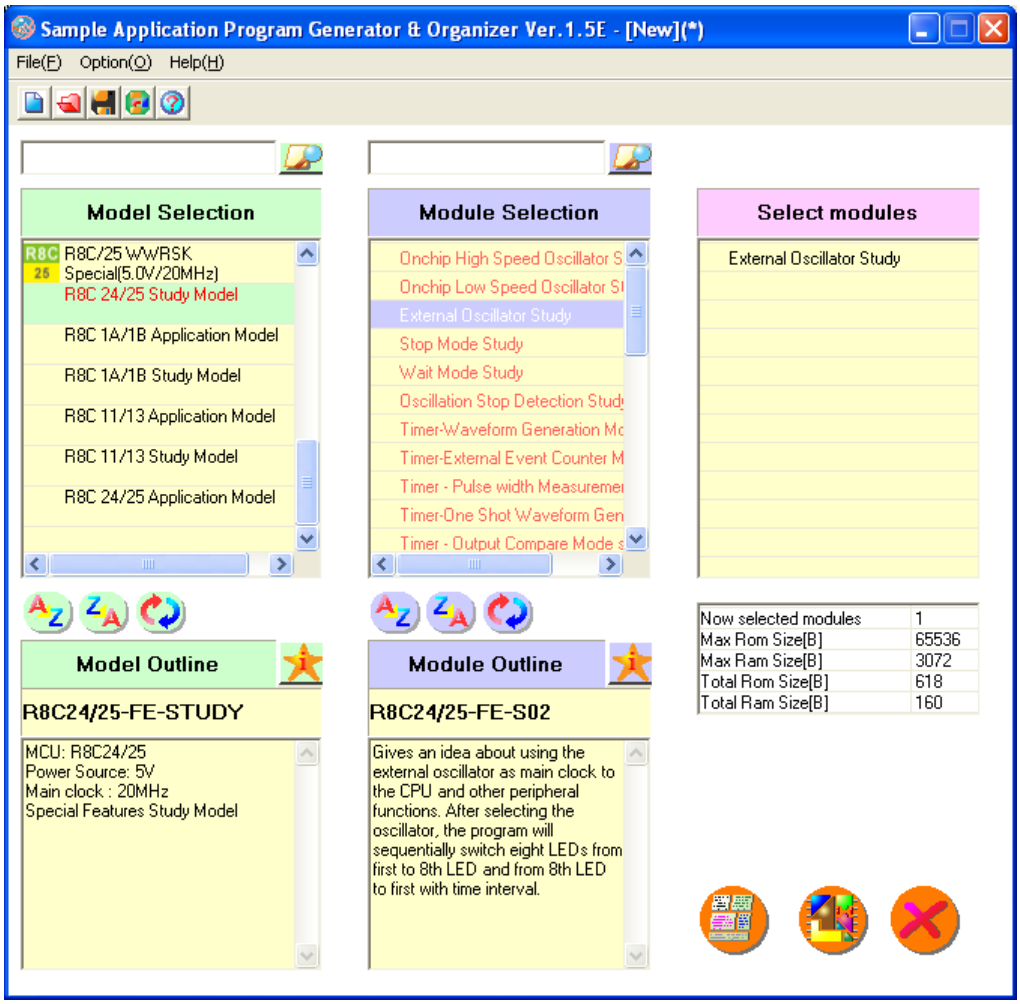
After setting the output folder,  button.

For an example, we are going to generate the code for flashing an LED using the R8C/25 micon with external crystal.

Select **R8C 24/25 Study Model** option under the heading Model Selection.

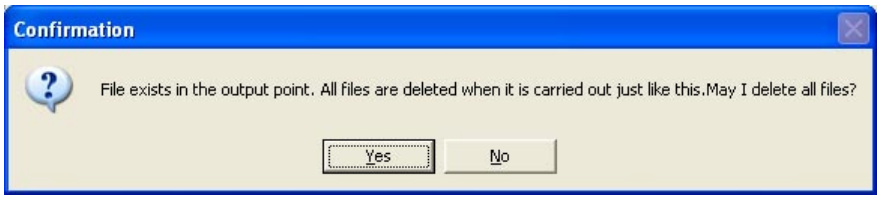


This will show the available study modules in the R8C 24/25 Study Model under the heading Module Selection. Next double click **Oscilator Study** option. The oscilator study option is displayed in the selected modules window as shown below:

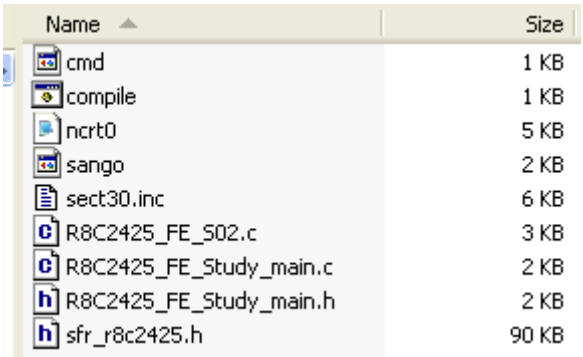


Now click  button to generate the code. In the study module only one module can be selected at a time. But if you goto application module, then more than one application module can be combined together.

If there is any file is there in the output folder, then one confirmation message will be displayed before erasing the files available in the output folder.



The generated files are listed below:



R8C2425_FE_Study_main.c is the comman main file for all study modules. R8C2425_FE_S02.c is the C file for external crystal study. Sfr_r8c2425.h file is the header file for the SFRs in R8C 24/25 family devices. ncrt0.a30 is the initialization file for the micon in assembly language.

You should copy these files to the HEW project folder after creating an empty project in HEW.

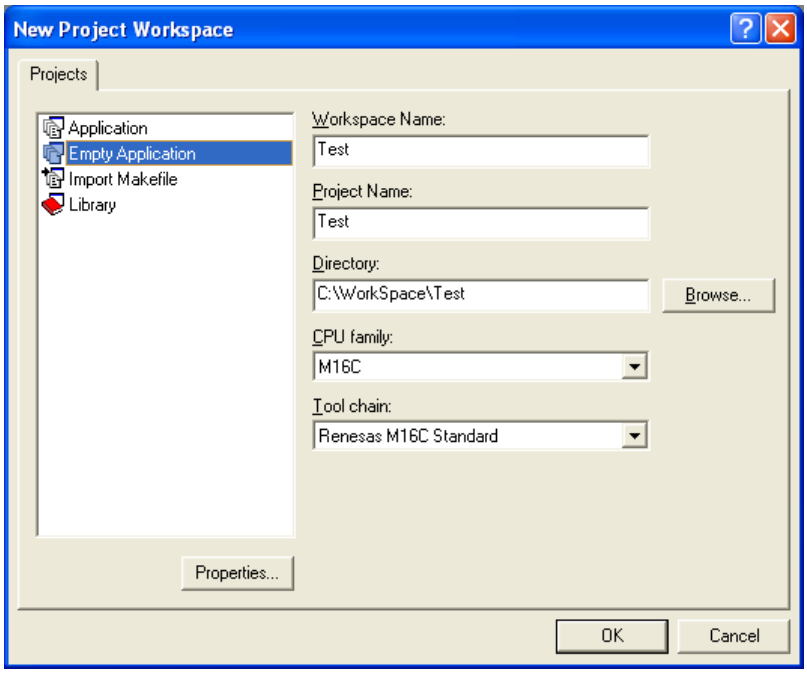
Compiling the code generated by Sango using HEW.

To compile the code generated using Sango, you have to do following sequences.

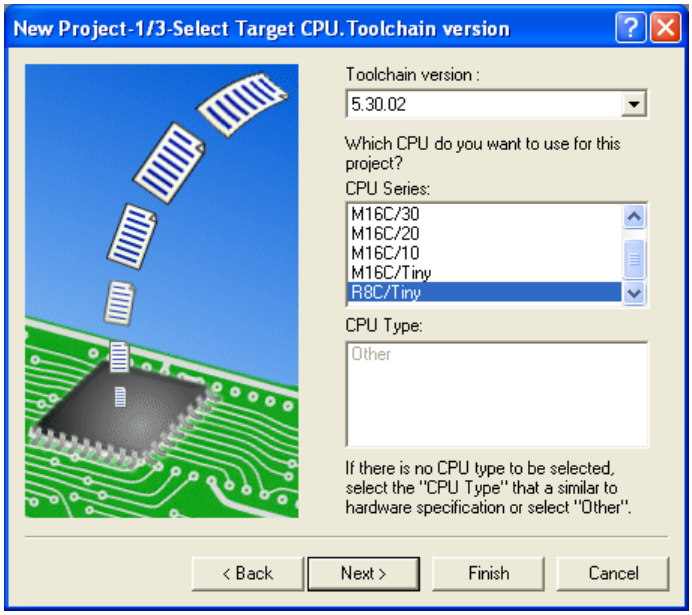
1. Create an empty project in HEW.
2. Copy the files generated by Sango to HEW project directory.
3. Add these files to HEW project.
4. Build the project to get the programmable code in .mot.

1. Create an empty application in HEW.

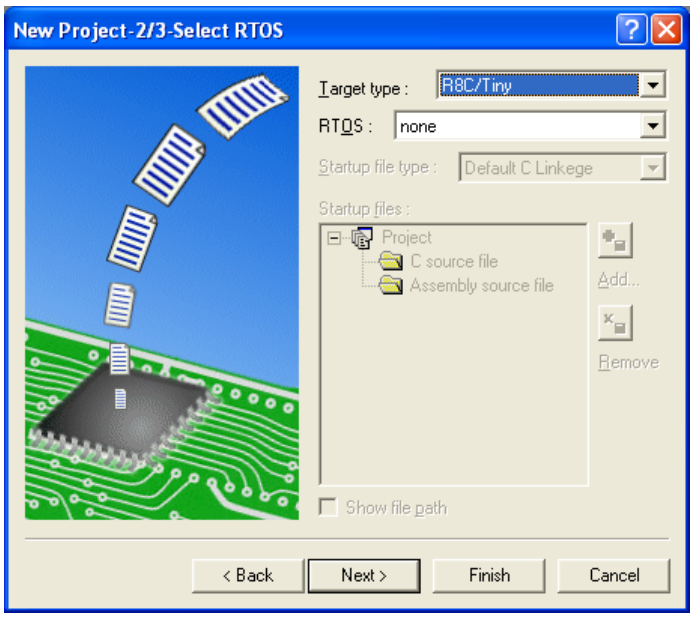
To create an empty application, start HEW. Select **New Workspace...** command from **File** menu. A New Project Workspace window will be displayed.



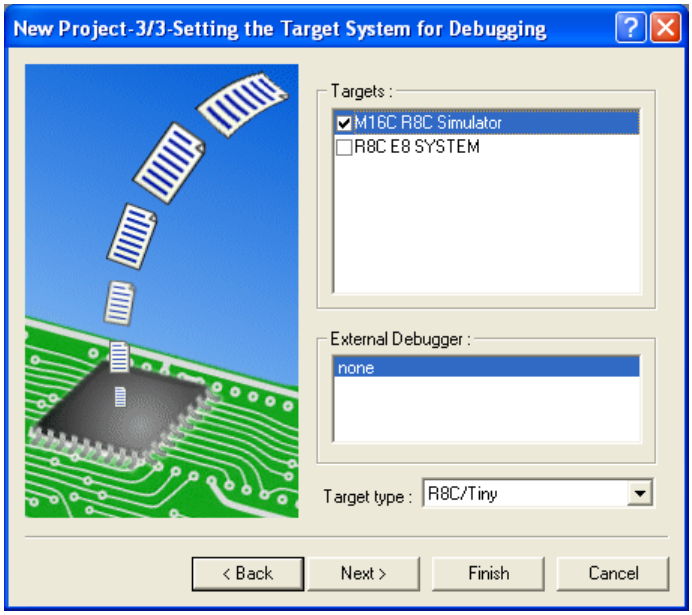
Select **M16C** option from **CPU Family**. Enter the workspace name under **Workspace Name** option and select **Empty Application** from **Projects** heading. Click **OK** button to goto next window.



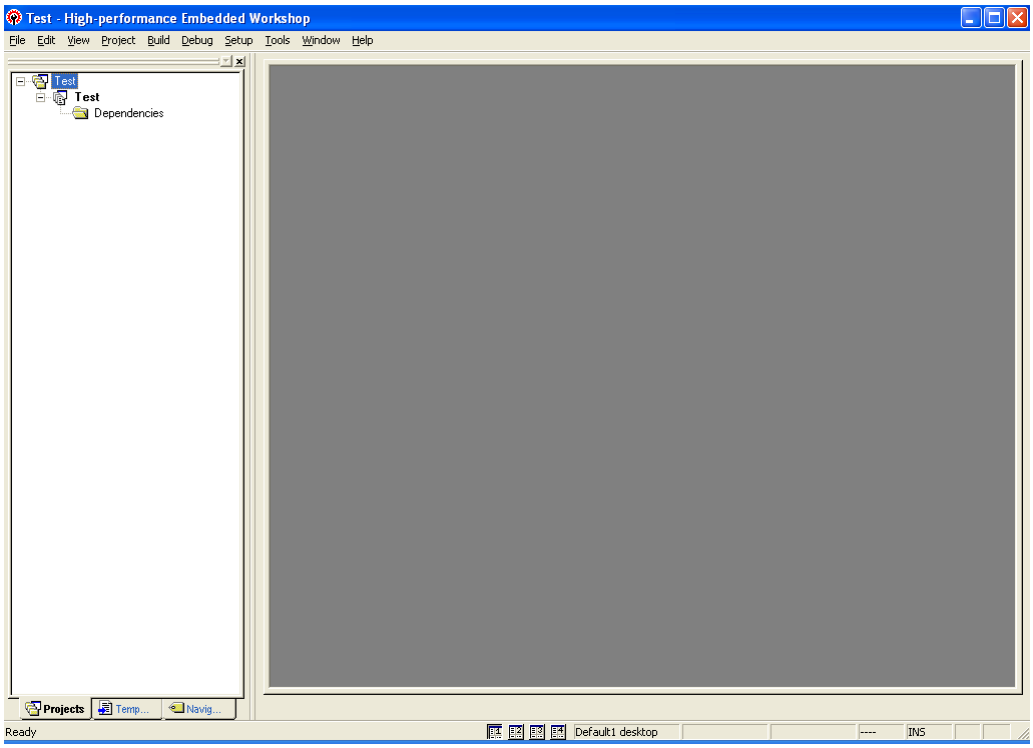
Select **R8C/Tiny** from CPU Series. Click **Next** Button.



Select **R8C/Tiny** from **Target type**. Click **Next** Button.



Select **M16C R8C Simulator** from **Targets** option and click **Finish** button. This will create a new workspace as shown below:

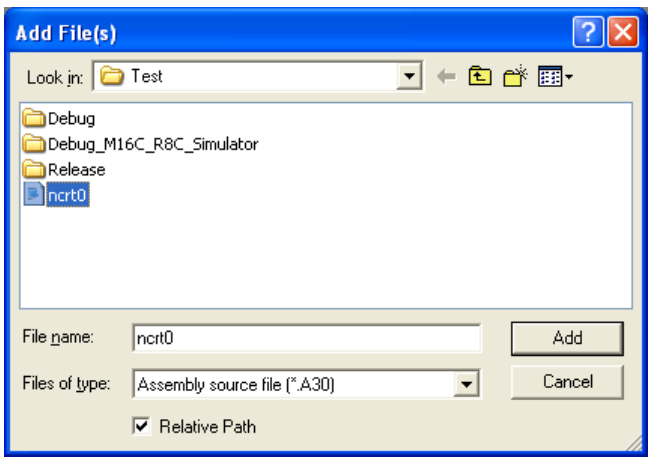


2. Copy the files generated by Sango to HEW project directory.

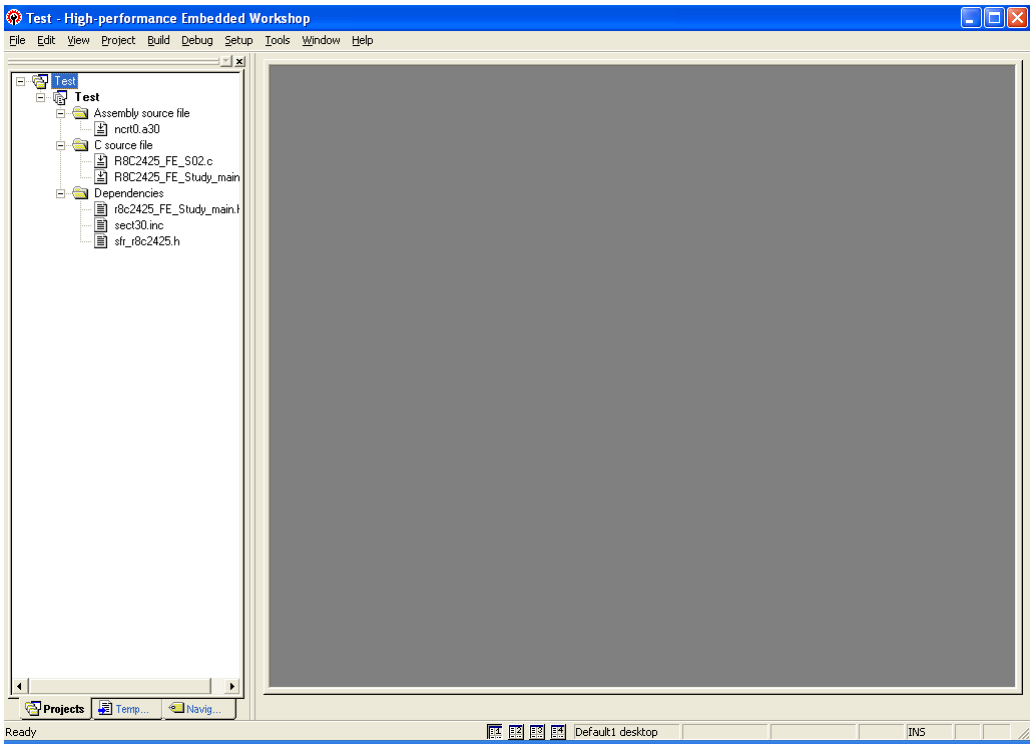
In this example, the output directory of Sango is **E:\Renesas\Sango New1\output**. The HEW project directory is **C:\WorkSpace\Test**. Copy all the files in the directory **E:\Renesas\Sango New1\output** to HEW project working directory **C:\WorkSpace\Test\Test**. The main project directory is **C:\WorkSpace\Test** and the working directory will be **C:\WorkSpace\Test\Test**.

3. Add these files to HEW project.

To add the files to HEW current project, first add the assembly language file “ncrt0.a30” and next the C files. Here the two C files are R8C2425_FE_Study_main.c and R8C2425_FE_S02.c. Use Add Files command in **Project** menu.

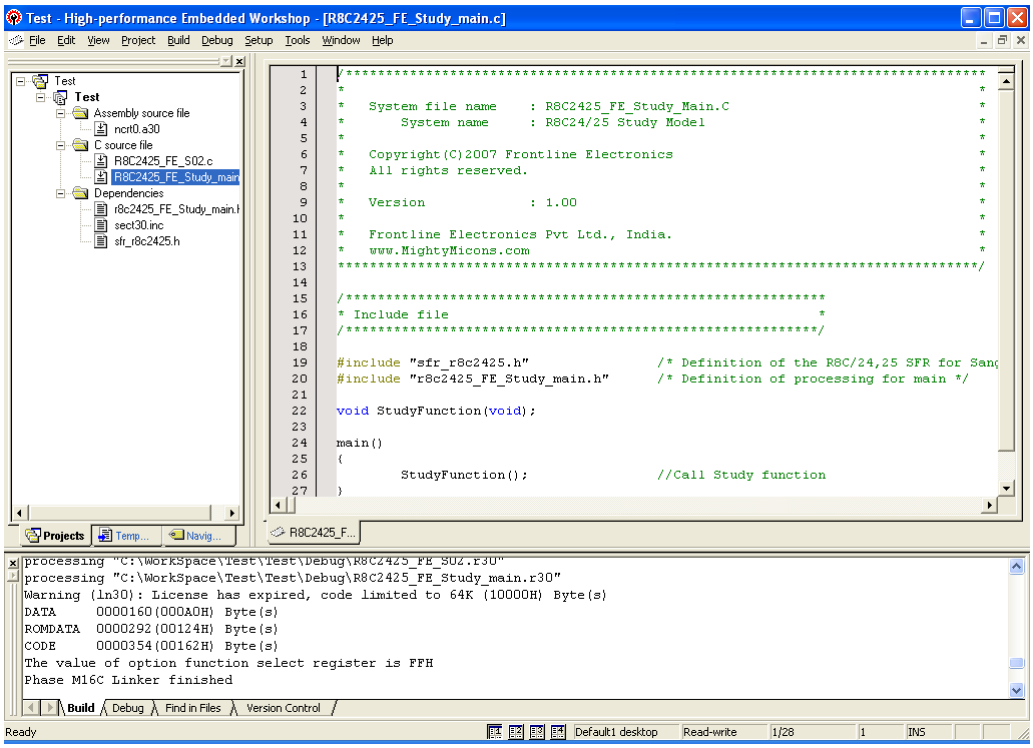


After adding the files to the project the workspace window will display all the files.



4. Build the project to get the programmable code in .mot format.

For building the project select the command **Build** from **Build** menu.



The programmable code file Test.mot file will be generated in the folder **C:\WorkSpace\Test\Test\Debug**.

For better visibility select tab size as 8 for the editor. To set tab size as 8, use **Options** command in **Setup** menu.