

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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**Be sure to read this note.**

# **C Compiler Package for 740 Family V.1.01 Release 01**

## **Release Notes**

Fourth Edition  
Renesas Solutions Corporation.  
October 16, 2006

### **Abstract**

Welcome to the C Compiler Package for 740 Family V.1.01 Release 01. This document contains supplementary descriptions to the electronic User's Manual.

Please read this release note while you refer to a corresponding item in electronic User's Manual.

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## Entering user registration

To be eligible for upgrade information, technical support, and other services, you must be registered as a user with Renesas Technology Corporation. Unless you are a registered user, the said services cannot be received.

Please register your name with Renesas Technology Corporation within 30 days after purchase.

### User registration

When you've installed C Compiler Package for 740 Family, the following file is created.

`\Program Files\IAR Systems\ew23\740\support\tw74\regist.txt`

Cut all contents of the regist.txt file and paste them into a file, then send it to the electronic mail address given below.

`regist_tool@renesas.com`

For information on our policy concerning the protection of personal information, please refer to the Renesas Technology Homepage.

The information we receive via the User Registration Form aids us greatly in our customer support activities. We provide Renesas Technology and related companies, distributors, etc., with essential user information (electronically or on paper) that will further help them provide customer support.

If you do not wish to have your user information provided to other related companies, please contact us to let us know. Note, however, this will limit our ability to provide complete product support.

## The latest info

Please refer to the useful following sites:

<http://www.renesas.com/en/tools>

## Contents of upgrading from old versions

- High-performance Embedded Workshop V.4 support

## Installing

### Before installing the C Compiler Package for 740 Family

Please confirm as follows before installing the C Compiler Package for 740 Family in your computer.

- Please carefully read the “License Agreement” and “Release Note(this note)” included with your product before using the C Compiler Package for 740 Family. If you’ve installed this product in your computer, it is assumed that you’ve agreed to the provisions stipulated in the License Agreement.
- Use the dedicated installer to install the C Compiler Package for 740 Family.
- You need to input a license ID in the middle of installation. Before you start installing the C Compiler Package for 740 Family, check your license ID.
- When upgrading the C Compiler Package for 740 Family, Renesas recommends uninstalling the existing version of the C Compiler Package for 740 Family before installing the new version.

Uninstalling the C Compiler Package for 740 Family

To uninstall the C Compiler Package for 740 Family, choose “Control Panel” and “Add/Remove programs” and then execute uninstall.

### The C Compiler Package for 740 Family Installer

#### ■ English environment

Supported host	Supported OS	Installer name	Directory on CD-ROM
PC	Windows 98 Windows 2000 Windows NT Windows Me Windows XP	SETUP.EXE	\ICC740\W95E

#### ■ Japanese environment

Supported host	Supported OS	Installer name	Directory on CD-ROM
PC	Windows 98 Windows 2000 Windows NT Windows Me Windows XP	SETUP.EXE	\ICC740\W95J

## Installing

Please use the following procedure for installation on a PC.

- (1) Go to the directory corresponding to your system, which can be found the name of the software you purchased, on the CD-ROM.
- (2) Start up the installer and follow the messages displayed on the screen as you install ICC740.

### **[About entering user information]**

The data you input in the intermediate of installation is necessary to create a file for user registration. For information on our policy concerning the protection of personal information, please refer to the Renesas Technology Homepage.

### **[About selecting contents of installation]**

It is not possible selective installation. (That means only assembler or only High-performance Embedded Workshop, for example.) If any components of them are not necessary, please do uninstallation each of them after installation.

### **[About uninstalling programs]**

The installed programs can be uninstalled according to the following instructions. Begin the uninstallation after closing all the applications.

- (1) Select [Control Panel] on the Windows [Start] menu.
- (2) Select the [Add or Remove Programs] icon.
- (3) Click [High-performance Embedded Workshop] on the [Change or Remove Program] tab and click the [Remove] button.
  - 740 Family C Compiler V.1.01 Release 01
  - IAR C Compiler Package for Renesas 740 V2.17A
  - High-performance Embedded Workshop

### **[About the AutoUpdater]**

The AutoUpdater will start and station into PC automatically.

The AutoUpdater is an utility that watch the Renesas HomePage periodically and detects the renewal of the installed development tools.

### **[Constitution of start menu]**

After installation, the folders and shortcuts that showed them below will be registered to the [start] -> [Programs] -> [Renesas].

- High-performance Embedded Workshop
- 740 Family C Compiler V.1.01 Release 01
- User Registration
- Renesas AutoUpdate
- Renesas Tools HomePage

## Software to be installed and Directories created by installation

When you've finished installing the C Compiler Package for 740 Family, the following directories are created below the installer's default installation directory :

C:\Program Files\IAR Systems\ew23\740

And the following files are installed in each directory.

Directory	File
bin	a740.exe (Assembler) icc740.exe (C Compiler) xlink.exe (Linkage editor) xlib.exe (Librarian)
inc	(Header files)
smptw74	tutor3.c (sample program)
lib	(Library files)
manual	rej10j1141_icc740_u.pdf (C Compiler Package electronic manual)

## Setting environment

If you use on Command prompt, set environment variables like the following table.

### Setting PC environment

The environment variables marked by "Auto" in the following table can be set with the installer.

Please check the item "Let setup modify the AUTOEXEC.BAT file" in Environment Variable dialog box, when you install.

Environment variable	Example of setting
C_INCLUDE	Auto (SET C_INCLUDE =C:\Program Files\IAR Systems\ew23\740\inc\)
A740_INCLUDE	Auto (SET A740_INCLUDE =C:\Program Files\IAR Systems\ew23\740\inc\)
XLINK_DFLTDIR	Auto (SET XLINK_DFLTDIR =C:\Program Files\IAR Systems\ew23\740\lib)
Command path	Auto ("C:\Program Files\IAR Systems\ew23\740\bin" is added)

## Programs in the freeware directory

The freeware directory on the CD-ROM contains programs with functions that support the product's functions. These programs are not installed by the installer; each program must be installed directly from the CD-ROM. See the document files for the respective programs for details of how to install the program and its functions.

sc74

A source file converter that allows you to convert the source files created for the Assembler Package for 740 Family into the source file format of the assembler A740 included with the ICC740.

Note!

Neither Renesas Technology Corporation nor Renesas Solutions Corporation, therefore, accepts any liability for damage directly or indirectly incurred by the use of this software.



## Notes

### Problems on Handling Interrupts

If a function called or to be called from an interrupt-handling function during interrupt service is called from another function, the warning message\* shown below cannot be displayed at linking. (The message is displayed in V.1.00 Release 1 through V.1.00 Release 1B.)

Warning[w16]: Function "name" in module (file) is called from two function trees (with roots name1 and name2 )

\* The M3T-ICC740 statically places local variables (arguments and auto variables) of a function. So using such a function within both an interrupt-handling function and another one may corrupt local variables. If calls are made to such a function from both of the above-mentioned functions, the linker sends Warning[w16]. However, in the product concerned, the linker does not.

Example:

```
-----  
void func2( int );  
  
interrupt[2] void  intr_1(void)  
{  
    func2( 2 );      /* If an interrupt generated while func1() is */  
                    /* executing func2(), local variables of      */  
                    /* func2() be corrupted after func2() returns */  
                    /* from interrupt                               */  
}  
  
void func1( void )  
{  
    func2( 1 );  
}  
  
void main( void )  
{  
    func1();  
}  
-----
```

Workaround:

Don't use the same function within an interrupt-handling function and another one.

## Problem on Calling Undefined Functions

Making a call to an undefined function does not display the warning message shown below at linking.

(The message is displayed in V.1.00 Release 1 through V.1.00 Release 1B.)

```
Error[e46:] Undefined external "external" referred in module(file)
```

Example

```
-----  
void func3( int );  
  
void main( void )  
{  
    func3();      /* undefined function */  
}  
-----
```

Workaround:

If you need to call an undefined function, define it.

## Problems on the High-performance Embedded Workshop

### Problem with Registration of the Dependencies of Source Files on a Header (include) File

Even though the dependencies of source files on a header (include) file have been registered in the High-performance Embedded Workshop, the list of the registration does not appear in the Build Options dialog box. \*

Consequently the list cannot be examined nor modified, and if the registration is duplicated, dependency errors arise.

\* To open this dialog box, click "Build" and "IAR ICC740 Toolchain" in the High-performance Embedded Workshop.

Workaround:

Register no dependencies in the version concerned. If you rebuild a project by changing the header file only, execute the Build All command.

---

**Problem with the Number of Files to Be Linked in a Project Folder**

If the number of files to be linked in a project folder is increased, the High-performance Embedded Workshop may abnormally be terminated.

This problem occurs if the number of characters in the command line exceeds 1024 when the linker is managed by the High-performance Embedded Workshop.

Here, the number of characters in the command line is the sum of the numbers of characters (including spaces) contained in the names of the commands, linker options, and files to be linked. Note that the full path of the project folder in which files to be linked are saved is added to their filenames. (So, increasing the number of these files causes the problem.)

To check for the number of characters in the command line in your compiler, see information on the command line saved on your map file.

**Example**

-----  
Full path of the project folder:

C:\WorkSpace\folder1\folder2\develop\develop

Files to be linked:

cstartup.r31, main.r31, file1.r31, file2.r31, file3.r31, file4.r31, file5.r31, file6.r31,  
file7.r31, file8.r31, file9.r31, file10.r31, file11.r31

In the above case, the entry into the command line is as follows:

```
C:\Program Files\IAR Systems\ew23\740\bin\xlink.exe
-f C:\WorkSpace\folder1\folder2\develop\develop\lnk740.xcl
-l C:\WorkSpace\folder1\folder2\develop\develop\Debug\develop.map
-x -Fieee695 -ylmba -o
C:\WorkSpace\folder1\folder2\develop\develop\Debug\develop.695
C:\WorkSpace\folder1\folder2\develop\develop\Debug\cstartup.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\main.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file1.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file2.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file3.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file4.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file5.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file6.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file7.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file8.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file9.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file10.r31
C:\WorkSpace\folder1\folder2\develop\develop\Debug\file11.r31
```

-----

**Workaround:**

This problem can be avoided by either of the following ways:

- (1) Use a shorter name for a project folder and decrease the depth of the directory structure.

Example: C:\WorkSpace\D1\D1

- (2) Decrease the number of files to be linked.

## Documents of IAR Systems

Please refer to the following document in the DOC folder generated after installing ICC740 about the newest information.

a740.pdf	Programming Guide of 740 Assembler, Linker and Librarian.
cs740M.pdf	With the C Compiler Package for 740 Family it is reference unnecessary.
cw740.pdf	With the C Compiler Package for 740 Family it is reference unnecessary.
ew740.pdf	With the C Compiler Package for 740 Family it is reference unnecessary.
icc740.pdf	Programming Guide of 740 C Compiler.
xlink.pdf	Reference Guide of IAR Linker and Library Tools.

a740.htm	Readme file for A740.
CLibrary.html	Readme file for CLIB.
coding.htm	Efficient Coding with the ICC740.
cs740.htm	With the C Compiler Package for 740 Family it is reference unnecessary.
cs740m.htm	With the C Compiler Package for 740 Family it is reference unnecessary.
cwgui.htm	With the C Compiler Package for 740 Family it is reference unnecessary.
ewgui.htm	With the C Compiler Package for 740 Family it is reference unnecessary.
icc740.htm	Readme file for ICC740.
manuals.htm	User guide corrections and updates.
readme.htm	Readme file.
wtd740.htm	With the C Compiler Package for 740 Family it is reference unnecessary.
xar.htm	Readme file for the IAR XAR Library Builder.
xlink.htm	Readme file for the IAR XLINK Linker.
xman.htm	Recent Manual Updates for XLINK.

## Correct Users Manual of the C Compiler for 740 Family

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10	Adds Table 1:Configuration <table border="1" style="margin-left: 20px;"> <tr> <td>Debuf_740_E8_SYSTEM</td> <td>This is a configuration for Debug with E8 SYSTEM.</td> </tr> </table>	Debuf_740_E8_SYSTEM	This is a configuration for Debug with E8 SYSTEM.
Debuf_740_E8_SYSTEM	This is a configuration for Debug with E8 SYSTEM.		
21	Adds Table 4:Configuration <table border="1" style="margin-left: 20px;"> <tr> <td>Debuf_740_E8_SYSTEM</td> <td>This is a configuration for Debug with E8 SYSTEM.</td> </tr> </table>	Debuf_740_E8_SYSTEM	This is a configuration for Debug with E8 SYSTEM.
Debuf_740_E8_SYSTEM	This is a configuration for Debug with E8 SYSTEM.		

## Startup of High-performance Embedded Workshop

### High-performance Embedded Workshop

Click [High-performance Embedded Workshop] in the [High-performance Embedded Workshop] folder in the [Renesas] folder in the [Program] folder of the Windows® [Start] menu.

### Launch Manual Navigator

It displays the online manuals and attached document.

Click [Manual Navigator] in the [High-performance Embedded Workshop] folder in the [Renesas] folder in the [Program] folder of the Windows® [Start] menu.

Note!

Manual Navigator requires Adobe Reader.

If Manuals folder is moved, Manual Navigator cannot show them.

## Operating Environment

The operation of C Compiler Package for 740 Family has been checked and confirmed on the host computers with the operating system versions shown below.

Host Machine Name	Supported OS
IBM PC/AT compatibles	Microsoft Windows 98 Microsoft Windows Me Microsoft Windows NT 4.0 Microsoft Windows 2000 Microsoft Windows XP

## Software version list

The C Compiler Package for 740 Family V.1.01 Release 01 comprises the following.

ICC740	V2.17A	IAR ANSI C Compiler
A740	V2.17A	IAR Assembler
CLIB	V3.34L	IAR C runtime library
XLINK	V4.59M	IAR Linker
XLIB	V3.29I	IAR Librarian

The C Compiler Package for 740 Family includes a freeware program the following.

SC74	V.1.00.00	Source file converter (Outside software for technical support)
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