

Be sure to read this note.

M3T-PD30SIM V.5.20 Release 1A

Release note

First Edition
Renesas Solutions Corporation
April 1 2004

Abstract

Welcome to M3T-PD30SIM V.5.20 Release 1A (called PD30SIM).

This material explains the contents of this software, installation procedure, and supplements to the user's manual and help. When using this software, please take a look at this release note as well as the user's manual.

Also, this material contains a License Agreement in the last. Please read it before using. By using the software, you are accepting and agreeing to such terms.

** You can get the latest version of this document from our homepage: Homepage. (<http://www.renesas.com/en/tools/>)

Contents

1	COMPONENTS OF THE PRODUCT.....	3
2	OPERATING ENVIRONMENT.....	5
3	INSTALLATION.....	6
3.1	TO INSTALL PD30SIM	6
3.2	USER REGISTRATION.....	6
3.3	TO INSTALL ACROBAT READER	6
3.4	TO INSTALL HTML HELP UPDATE COMPONENT	7
4	A REQUEST CONCERNING TECHNICAL SUPPORT.....	8
4.1	TECHNICAL SUPPORT BY E-MAIL.....	8
4.2	TECHNICAL SUPPORT BY FAX	8
4.3	TECHNICAL SUPPORT BY HOMEPAGE.....	8
5	NOTES.....	9
5.1	TREATMENTS OF FILES AND DIRECTORIES	9
5.2	PRECAUTIONS ON USING M16C/62 GROUP	9
5.3	REGARDING THE NUMBER OF DATA THAT CAN BE ACQUIRED ON VIRTUAL PORT OUTPUT OR OUTPUT PORT WINDOWS.	9
5.4	ON WATCHING THE LOCAL C VARIABLES.....	9
5.5	ON DEBUGGING THE _BOOL TYPE	9
6	SUPPLEMENTS OF HTML HELP.....	10
6.1	A PRECAUTION OF MCU FILES.....	10
6.1.1	List of MCU Files attached to PD30SIM.....	10
6.2	ABOUT DEBUG FUNCTIONS FOR THE OSEK OS.....	10

6.2.1	Registering the Runtime Osek window in PD30SIM.....	10
6.3	ABOUT THE ATTACHED CUSTOM WINDOWS.....	10
7	REGARDING I/O SCRIPT SAMPLE PROGRAMS.....	12
8	REGARDING CB30SIM AND CUSTOM FUNCTION.....	12
9	VERSION REPORT	13
9.1	PD30SIM V.5.20 RELEASE 1, PD30SIM V.5.20 RELEASE 1A	13
9.1.1	Functional Extensions.....	13
9.2	PD30SIM V.5.10 RELEASE 1	13
9.2.1	Revisions for Restrictions	13
9.3	PD30SIM V.5.00 RELEASE 1	13
9.3.1	Revisions for Restrictions	13
9.3.2	Functional Extensions.....	14
9.3.3	Specification Changes.....	16
9.4	PD30SIM V.4.00 RELEASE 1	16
9.4.1	Correction of Restrictions	16
9.4.2	Functional Extensions.....	16
9.4.3	Specification Changes.....	18
9.5	PD30SIM V.3.00 RELEASE 1	18
9.5.1	Correction of Restrictions	18
9.5.2	Functional Extensions.....	18
9.5.3	Specification Changes.....	19
10	LICENSE AGREEMENT	21

- Microsoft, MS-DOS, Windows, and Windows NT are registered trademarks of Microsoft Corporation in the U.S. and other countries.
- IBM and AT are registered trademarks of International Business Machines Corporation.
- Intel and Pentium are registered trademarks of Intel Corporation.
- Adobe, Acrobat, and Acrobat Reader are trademarks of Adobe Systems Incorporated.
- All other brand and product names are trademarks, registered trademarks or service marks of their respective holders.

1 Components of the Product

The following files comprise the package of PD30SIM V.5.20 Release 1A(English version). The License ID Certificate/User Registration Sheet is not included in the package for upgrading.

■ Contents of the CD-ROM

1. Files of installer for PD30SIM

The following files are installed after running the installer for PD30SIM.

(1) Programs and concerned files

- PD30SIM.EXE V. 7.20.00
- xxxxxx.dll

P30SDLL.DLL	V. 1.20.00	P30SEVENTSETTING.DLL	V. 1.20.00
COMMUNI.DLL	V. 2.01.04	P30SRTOSWIN.DLL	V. 1.20.00
P30SGUI.DLL	V. 1.20.00	P30SIMWIN.DLL	V. 1.20.00
P30SCBENGINE.DLL	V. 1.20.00	P30SGUIOWIN.DLL	V. 1.20.00
MFC42.DLL		MSVCRT.DLL	
ATL.DLL			

- MCU files

M16C6x.MCU	M16C3x.MCU	M16C2x.MCU	M16C1x.MCU	R8C1x.MCU
------------	------------	------------	------------	-----------

- SIM30.EXE Ver.4.20.00
- PDHELP.CHM
- PD30SIMDLL.DEF
- PD30SIM.RDF
- PD30SIM.FEF
- DEFAULT.SCK
- I/O Script sample programs

The following software is attached as service software.

CB30SIM.EXE V.1.11.01	
CB30SGUI.DLL	CB30SIM library files
MA.EXE, MADLL.DLL	CB30SIM include files
MC.EXE, MCDLL.DLL	CB30SIM sample programs
ML.EXE, MLDLL.DLL	CB30SIM.HLP
MCPP.EXE, MCPPDLL.DLL	CB30SIM.RDF
MCC.EXE	

(2) Documents

Descriptions	File Names
Simulator Debugger User's Manual ¹	PDSUE.PDF
Introducing I/O Script Sample Programs	PD30SSE.PDF
CB30SIM User's manual	CB30SUE.PDF
CB30SIM Programming manual	CB30SUPE.PDF
CB30SIM Sample program manual	CB30SSE.PDF

(3) HTML Help Update Component

You may need HTML Help Update Component (Microsoft Incorporated products) to browse HTML Help Files (.CHM). Install and update this component in your system, if you can't open help for PD30SIM.(NOTE: You need restart your system after the installing)

¹ The User's Manual is shared with PD308SIM V.3.XX and PD30SIM V.5.XX.

- Release Note for PD30SIM V.5.20 Release 1A (It's this note, which contains "Software User License Agreement".)
- License ID Certificate/User Registration Sheet

- | |
|--|
| <ul style="list-style-type: none">● If any of the above is missing, contact either Renesas Technology Corporation's office or its distributor from which you purchased the product.● Please read a License Agreement before using. By using the software, you are accepting and agreeing to such terms.● The S/W Tool User Registration Sheet is used for maintenance service for you. |
|--|

2 Operating Environment

PD30SIM runs on the host machine environments given below.

Table 1:Host Machine Environments

Host Machine	IBM PC/AT compatibles
Operating System	Windows Me Windows 98 Windows XP Windows 2000 Windows NT 4.0
CPU	Pentium II 233MHz or higher CPU is recommended.
Memory	128MB or more system memory is recommended.

3 Installation

The following shows installation procedure of PD30SIM.

[Notes for Windows XP/2000/NT 4.0]

Make sure that installer is executed by one who is authorized as an Administrator. No one but the user who has the authority of an Administrator can install the PD30SIM.

3.1 To install PD30SIM

Please install the Installing the debugger according to the following procedures.

1. Start of installer
Please execute "Setup.exe" which is in the ¥PD30SIM¥W95E folder of the product CD-ROM, from Explorer or any other launcher program.
2. License ID
In "License ID" dialog box, please select the "Normal License" and input the license ID. License ID(XXXX-XXXX-XXXX-XXXX-XXXX) is described in license ID Certificate. (appended to the product package)
3. Display of product license
The "Software License Agreement" dialog box displays the content of the license agreement. Please read the content of the contract.
4. Input of user information
In "Customer Information" dialog box, please input customer information (License User, Belong To, Your Addresses, and PC types). Input information becomes a format of a customer support by mail.
5. Selection of component
In "Select Components" dialog box, please select the installed component. This dialog box can change the directory the installation ahead.
6. End of the installer
The installation of PD30SIM is complete, when the dialog box which indicates "Setup is complete".

3.2 User Registration

The text file for the user registration is created to the start menu. Please input a necessary matter to the text file and send it to the registration desk (regist_tool@renesas.com) in our company by e-mail. To open the text file for the user registration, please select the following menu:

Windows Menu [Start]->[Program]->[RENESAS-TOOLS]->
[PD30SIM V.5.20 Release 1A]->[User Registration Sheet]

If you would like to register your information by FAX, please fill in the contents of the License ID certificate and send it to the registration desk (81-6-6398-6191).

3.3 To install Acrobat Reader

The manual of PD30SIM is offered as an electronic manual. Acrobat Reader is necessary to refer to an electronic manual. Please install Acrobat Reader if necessary. Acrobat Reader can be downloaded from the home page of the Adobe Systems Incorporated products.

URL for Adobe Systems Incorporated: <http://www.adobe.co.jp/>

3.4 To Install HTML Help Update Component

The Online Help for PD30SIM is offered as a HTML Help file. Internet Explorer 4.0 or later is necessary to browse HTML Help files.

If you can't browse HTML Help files, you need install Internet Explorer 4.0 or later, or install HTML Help Update Component, or Install both of them.

HTML Help Update Component (HHUPD.EXE) is appended below "Utility" folder where PD30SIM installed. This component can be downloaded from the home page of Microsoft co.

URL for MSDN: <http://msdn.microsoft.com/>

4 A Request Concerning Technical Support

4.1 Technical support by E-mail

The text file for the technical support is created to the start menu. Please fill in it and send it to your nearest Renesas office or its distributor by E-mail. To open the text file for technical support, please select the following menu:

Windows Menu [Start]->[Program]->[RENESAS-TOOLS]->
[PD30SIM V.5.20 Release 1A]->[Technical Support Sheet]

4.2 Technical support by FAX

Please fill in the “Technical Support Communication Sheet”, which is the last page of User’s Manual, and send it to your nearest Renesas office or its distributor by FAX.

[Notes for technical support]

We appoint the types of host machines (IBM PC/AT compatibles, for example) as an operation environment for using our software tools. This does not guarantee operation on all the types of the host machines or in any environment of them (device drivers, peripheral units, etc.), but merely for indicating an operation environment we assume (to be put to our support). If a trouble should occur in using the software tools in the operation environment we appointed, we offer a technical support to solve the trouble (correct the defective condition, inform a way of avoiding the trouble, and so forth).

If a trouble that occurred in your environment cannot be reproduced in our operation environment, we may ask a favor of you to solve the trouble (we may borrow your equipment with your approval). We would like to obtain your prior approval.

4.3 Technical support by Homepage

Our homepage in the following URL provides datasheets, toolnews, FAQ and the other informations of our products.

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

Another access is:

Windows Menu [Start]->[Program]->[RENESAS-TOOLS]-> [(Link Page for) RENESAS Tools HomePage]

5 Notes

5.1 Treatments of Files and Directories

PD30SIM runs under Windows Me/98/XP/2000/NT 4.0, but the following points should be noted:

1. Use only one period in a filename.
2. You cannot use a network pathname. You must allocate a drive.
3. Note the following constraints:
 - Do not use directory names or filenames that include blanks.
 - You cannot use "." to specify two levels upper directories.

5.2 Precautions on Using M16C/62 Group

PD30SIM does not support the M16C/62 group's memory extension mode. (Only the normal mode is supported.)

5.3 Regarding the number of data that can be acquired on virtual port output or output port windows

The maximum number of data that can be acquired on I/O window's virtual port output or output port windows can be specified in the Init dialog box. We recommend specifying a value less than 500,000 for this data count. Specifying any value greater than that may cause the performance of PD30SIM or Windows to drop.

5.4 On watching the local C variables

For the sake of optimization, the C compiler may place different variables at the same address. In this case, values of the C variable may not be displayed correctly on the c watch window or other function.

5.5 On debugging the _Bool type

PD30SIM do not support _Bool type debugging. When downloading a program with _Bool type, following error occurs in PD30SIM: "ERROR 6200: SYMBOL file is illegal."

To use _Bool type, specify either -gbool_to_char or -gBTC for the debug option when you compile it.

6 Supplements of HTML Help

6.1 A precaution of MCU files

Some of the contents of the MCU file are changed at PD30SIM V.5.20 or later. Therefore, when setting the MCU file in setting up the PD30SIM, you must select an MCU file, which is available to the new version. If an MCU file attached to PD30SIM V.5.10 Release 1 or earlier version is selected, error occurs.

6.1.1 List of MCU Files attached to PD30SIM

MCU File Name	MCU
M16c6x.mcu	M16C/60 Series
M16c3x.mcu	M16C/30 Series
M16c2x.mcu	M16C/Tiny, M16C/20 Series
M16c1x.mcu	M16C/10 Series
R8c1x.mcu	R8C/Tiny Series

(Note)

- MCU files are included in the directory where PD30SIM installed (ex: C:\MTOOL\PD30SIM\McuFiles).

6.2 About Debug Functions for the OSEK OS

PD30SIM supports the following debug functions for the OSEK OS (for M16C/6N):

- Runtime Osek window (custom window)

Shows the status of the OSEK OS resources by sampling while executing the target.

6.2.1 Registering the Runtime Osek window in PD30SIM

The Runtime Osek window is a custom window created using the customize functions of PD30SIM.

When PD30SIM is installed, various files of the runtime Osek window are copied to the directory shown below.

Directory	File name
[MTOOL]\PD30SIM\Macro\osek	osek_win.p (program file) osek_win_j.pdf (PDF file)

(* [MTOOL] denotes the directory you specified when installing PD30SIM).

To use the runtime Osek window, you need to register this custom window to the PD30SIM menus. Select PD30SIM menus [Optional Windows] -> [Custom Windows] -> [Options], and a Custom Window Option dialog box appears. Register the above path and window name (e.g., OSEK) in this dialog box. (For details, see PD30SIM help "Registering custom windows.") For details about the functions of the runtime Osek window and how to use it, see the attached PDF file.

6.3 About the Attached Custom Windows

The custom windows and custom commands listed below are attached to PD30SIM.

When PD30SIM is installed, various files of the attached custom commands are copied to the directory shown below.

[MTOOL]\PD30SIM\Macro

(* [MTOOL] denotes the directory you specified when installing PD30SIM.)

<<List of attached custom windows>>

- Custom Dump Window

Directory in which the attached files are stored:

Directory	File name
DumpWin	dump_win.p dump_win_e.pdf

Functions:

This window can change the number of columns (1-32) in a row.
For details about this window and how to use it, see the dump_win_e.pdf.

●OSEK Window

Directory in which the attached files are stored:

Directory	File name
OSEK	osek_win.p osek_win_e.pdf

Functions:

This window helps your debugging of OSEK OS (for M16C/6N) program.
For details about this window, please refer to “6.2 About Debug Functions for the OSEK OS” and the osek_win_e.pdf.

7 Regarding I/O Script Sample Programs

PD30SIM has a I/O script function as a means of simulating the operation of internal devices (e.g., timers and CRC arithmetic circuits).

Try using the I/O script sample program included with this product. It contains a description of internal device operation.

For details about specifications of and the method for using this I/O script sample program, refer to the electronic manual, "Introducing I/O Script Sample Programs."

8 Regarding CB30SIM and Custom Function

For details about the functions of and the method for using CB30SIM, refer to the electronic manuals, "CB30SIM User's Manual," "CB30SIM Programming Manual," and "The introduction of the sample programs for CB30SIM."

CB30SIM and custom window functions are the service tools attached to PD30SIM.

This technical support copes with it by inserting the newest information in the homepage.

(URL : <http://www.renesas.com/en/tools>)

And, as for the question which fills the following condition, approve it in advance because it becomes support within our possible span though it lets me cope with it by electronic mail.

(It has the possibility that we can't necessarily meet all question and requests.)

- Ask me a question by electronic mail at our company support counter.
(support_tool@renesas.com)
- Attach the source file of the sample program and binary to the electronic mail when you ask it a question about faulty operation of the custom window which a customer made.(As for the program, remove all the parts which aren't concerned with the true nature of the problem.)

9 Version Report

This section describes the specification of the changed software.

9.1 PD30SIM V.5.20 Release 1, PD30SIM V.5.20 Release 1A

In this version, the following specifications were changed from former version PD30SIM V.5.10 Release 1.

9.1.1 Functional Extensions

- Support for the R8C/Tiny series.
- The file, which is opened in Program window and Source window, can be opened with HEW, when PD30SIM started up by the external debugger of HEW.

9.2 PD30SIM V.5.10 Release 1

In this version, the following specifications were changed from former version PD30SIM V.5.00 Release 1.

9.2.1 Revisions for Restrictions

- A limitation has been corrected that if you try to open dialog boxes (for setting breakpoints and changing windows etc.) during execution of target programs, those dialog boxes may not appear, and the subsequent operations become frozen. (for detail, refer to the MAEC TOOL NEWS, May 16, 2001)
- A limitation has been corrected that debuggers may be terminated forcibly when variables are entered in the C watch window. (for detail, refer to the MAEC TOOL NEWS, August 1, 2001)
- A limitation has been corrected that if a Windows application is launched or any of the other already-opened Windows applications is made active while you are downloading a target program (a load module), the debugger may freeze suddenly. (for detail, refer to the MAEC TOOL NEWS, December 16, 2001)
- A limitation has been corrected that the Source window may not be opened or not display materials normally if opened. (for detail, refer to the MAEC TOOL NEWS, December 16, 2001)
- A limitation has been corrected that even when a search path is set using the Customize dialog box or the Path script commands, the source file located by the search path may not be displayed in the Program window and others. (for detail, refer to the MAEC TOOL NEWS, December 16, 2001)
- A limitation has been corrected that when data is transferred by an MOV instruction using the SP relative addressing mode, the S flag will not be cleared to "0" but incorrectly be set to "1" if the MSB value of the lower 8 bits of dest (destination) is "1", even though the value of the MSB of dest is "0". (for detail, refer to the MAEC TOOL NEWS, November 16, 2002)
- A limitation has been corrected that simulator debugger may be hung when coverage data is set. (for detail, refer to the MAEC TOOL NEWS, December 16, 2002)

9.3 PD30SIM V.5.00 Release 1

In this version, the following specifications were changed from former version PD30SIM V.4.00 Release 1.

9.3.1 Revisions for Restrictions

- A limitation has been corrected that when the memory content at a 2-byte or 4-byte watch point starting from an odd address is altered in the ASM Watch Window, a communication protocol error occurs. (for detail, refer to the MESC TOOL NEWS, December 1, 1999)
- A limitation has been corrected that if the MR Window MPL mode is displayed, a Windows error message "Performed an illegal operation" may be output. (for detail, refer to the MESC TOOL NEWS, June 1, 2000)
- A limitation has been corrected that when operating in the Program or Source window's Source dialog box (opened from

View -> Source button/menu) a Windows error message is displayed and the operation is forcibly terminated.

(for detail, refer to the MESC TOOL NEWS, June. 16, 2000)

- A limitation has been corrected that if any structure whose member names exceed 1,024 characters in total is displayed on the C Watch, Global, File Local, or Local window, the debugger may be forcibly terminated.
(for detail, refer to the MESC TOOL NEWS, October 16, 2000)
- A limitation has been corrected that when referencing 32-bit register variables from the C Watch or Local window or with the print command, the software does not display correct values.
(for detail, refer to the MAEC TOOL NEWS, May 16, 2001)

9.3.2 Functional Extensions

- Window-related Functions
 - Trace Window
 - A window has been added that records and references the history of target program execution.
 - Trace Point Setting Window
 - A window has been added that sets conditions under which to start or finish tracing.
 - Output Port Window
 - A window has been added that outputs the data which normally are forwarded to ports to a window or file. It helps to output the results of the printf function, a standard output function of the C compiler NC30.
 - GUI Input Window
 - Bit inputs and multi-byte inputs are now accepted.
 - A part has been added that shows strings.
 - GUI Output Window
 - The number of addresses that can be set in a created part has been increased to a maximum of 200.
 - A part has been added that shows strings.
 - I/O Window
 - A dialog box has been added that helps to set simple timer interrupts.
 - Virtual port inputs, virtual interrupts, and I/O script procedures can now be registered in up to a maximum of 50 in total.
 - Init dialog box
 - Tabs have been added to the Init dialog box, and size of the dialog box has been reduced.
 - A function has been added that allows you to specify the MCU file that contains the MCU's inherent information. The information of this MCU file is used by the Output port window.
 - A function has been added that allows you to specify the CPU's operating clock frequency. The CPU's operating clock frequency is used in execution time measurements or simple timer interrupts.
 - A function has been added that allows you to specify the number of cycles for which time the trace results can be recorded.
 - A function has been added that allows you to specify the maximum number of data that can be acquired on I/O window's virtual port output or output port windows
 - Program/Source Windows
 - Source file editing function has been added.
 - It has been available to save the MIX mode display to text files.
 - It has been available to input source files' names in the Source Dialog Box immediately.
 - Memory Window
 - The following function has been added; the beginning of the display are changed to the position which corresponds to stack pointers.
 - ASM Watch Window
 - The following functions have been added.
 - Watch points are also displayed in signed decimal

- The Refresh Button is added. You can update the display of the memory contents.
- Call Stack Window
 - Call Stack Window has been added. This window displays function call information of C language.
- Dump Window and Memory Window
 - You can specify a start address for display, when you open a Dump Window or a Memory Window.
 - The start address of the Dump Window or the Memory Window is displayed on the title bar.
- RAM Monitor Window
 - The start address of the RAM Monitor Window is displayed on its title bar.
- C Watch Window and ASM Watch Window
 - You can specify where C and ASM watch point file is saved.
 - You can save C and ASM watch points in project-wise.
- Script Window
 - Command history is saved. When you type up-arrow or down-arrow key on the input field in focus, commands in the history appear in order.
 - RELOAD command is added. This command loads your last target program again.
- PD Window
 - You can switch the display of the toolbar on or off.
 - The execution time of a program was displayed on the status bar.
- Find dialog box
 - History of searching key words becomes to be held.
- Script commands
 - TraceData (TD) command
 - A command has been added that displays access information on trace result memory.
 - TraceList (TL) command
 - A command has been added that displays the disassembled result of trace results.
 - TracePoint (TP) command
 - A command has been added that sets conditions under which to start or finish tracing.
- The Others
 - Support the Drag-and-drop Operations.
 - With the drag-and-drop operations, you can load files, set events, set beginnings of displays, add watch points, set or move data, and so on.
 - Auto Completion for the Address Setting.
 - When you input some characters for the label string in the address setting combo-boxes, the characters are completed to a label string that corresponds.
 - Buttons on the Toolbars
 - The buttons on the toolbars has been resized smaller and changed to the icons.
 - You can switch styles of buttons.
 - Customizing of User Interfaces
 - Shortcut key assignment and toolbar customizing functions have been added.
 - Shortcut menu
 - Right click on each window displays its own option menu as shortcut menu.
 - Supplemental Download Function for Binary Data
 - After downloading of an absolute module file, You can download supplemental binary data (HEX files or MOT files) with keeping symbol debugging information.
 - Saving window information and Resuming
 - Size, location and the other information of each window resumes at opening each window. This resuming function had worked only at starting PD30SIM.
 - Listing of All Labels in Address Setting Fields

All labels are listed in each address setting fields. When you set a label for an address, you can select it from the list.

- Online Help
- Online help has been changed to HTML Help.

9.3.3 Specification Changes

- Window-related Functions
 - Source Window
 - Source windows can be opened up to 30.
 - Dump Window and Memory Window
 - Dump Windows can be opened up to 30. And Memory Windows have also.
 - Script Window
 - Script files can be nested to 10.
 - 256 macro defines a script file has available.
 - Customize Dialog Box
 - Customize Dialog Box has changed to Property sheet. Settings for customizing (settings of shortcut keys, download, fonts, path, tools and the others) are unified into one dialog box.
- Script commands
 - CYcle (CY) command
 - This command now displays the number of execution cycles and the execution time.
- The Others
 - I/O Script file
 - The default extension for I/O script files has been changed from ".scr" to ".ios."
 - Download History Function
 - You can specify the number of remembering files, which have been downloaded, from 1 to 16.
 - Changes of Appearances
 - Appearances of the buttons on the toolbar of PD Window have been changed.
 - Arrangements of a part of the menu items have been changed.
 - Appearances of Upload dialog box and Save Disasm Dialog box have been changed.
 - CB
 - A part of functions added to PD has available.

9.4 PD30SIM V.4.00 Release 1

In this version, the following specifications were changed from former version PD30SIM V.3.00 Release 1.

9.4.1 Correction of Restrictions

- The following restrictions concerning upload function have been modified.
 - If a Motorola S-format file is created using the [File] [Upload] menu or "UploadMot" command, the check sum of the end record is not correct.
 - If a Motorola S-format file of a certain address range is created using the [File] [Upload] menu or "UploadMot" command, data of part of the range may not be output.
- A limitation that when you download the absolute module file, which includes over 127 sections, PD30SIM outputs the error and fail to download it.
- The restriction that the auto variables registered in C Watch Window / Local Window are not displayed when you use module files created by IAR C compiler has been modified.

9.4.2 Functional Extensions

- Window-related
 - Program/source window
-

- A function that displays C variable on the popup window when in the source display mode and the mouse cursor is placed on the C variable for a certain period of time has been added.
- A function that displays measurement results of coverage has been added.
- Operation has been facilitated by right-click menus that let you jump to the selected function, or let you register items on the C watch window of the selected variable.
- You can now change the characters and background color of text, PC line or coverage line.
- You can now switch from disassemble display mode to source display mode or mix display mode even if the start addresses don't match.
- The system now switches automatically to the selected display mode if the pause position of the target program can be displayed by the display mode selected from the menu or tool bar (program window only).
- Dump/memory window
 - A Japanese code display function has been added. SJIS or JIS code characters can now be displayed when in word display mode.
 - You can now set a range of addresses selected by the cursor (Start, End) as the start and end addresses for Fill or Move dialog boxes.
- C watch window
 - C watch display RAM monitor
You can now view C variables while the target program is running.
 - Radix can now be changed for each variable.
 - If C variables are array type, you can now expand and display the elements of the array. Now you can also display the object of the pointer if the C variables are pointer type.
- Script window
 - A function that records executed commands in a file has been added. Unlike a logging function, only the command itself is recorded so the saved file can be used as a script file.
- Coverage window added
- MR window added
- Script commands
 - MOVEWord command added
This command moves a memory in the Word unit.
- Others
 - Addition of download history function
A function that displays a list of files (4) for which download has been executed at the bottom of the file menu has been added. You can re-download a file by selecting it from the list.
 - Addition of automatic download function when updating load module
A function that automatically downloads when the target program is updated has been added.
 - Addition of file format that can be downloaded from a menu
You can now select file formats supported by script command only (Intel HEX format, IEEE-695 absolute format, etc.) from the menu.
 - C address input support
You can now input all addresses (dialog, etc.) in both ASM or C.
 - Addition of GoFree menu
Free run which used to be supported by GoFree command only can now be executed from the menu.
 - Addition of scope switch dialog box
The scope setting function which used to be supported by SCOPE command is now supported by GUI.
 - Addition of Options menu
A function for customizing PD30SIM operation has been added.

9.4.3 Specification Changes

- Window-related
 - Register window
Size of the window has been reduced, and font change is now supported.

9.5 PD30SIM V.3.00 Release 1

In this version, the following specifications were changed from former version PDB30SIM V.2.00 Release 1.

9.5.1 Correction of Restrictions

- A restriction that if after creating C source and assembler source files of the same file name (e.g., Sample.c and Sample.a30) you downloaded the x30 file including those files by the on-memory method (a method for reading debug information) an error message "File format is illegal" was displayed and the downloading was aborted, has been corrected.
- A restriction that if you downloaded an absolute module file (x30 file) created by linker ln30 using command parameters consisting of more than 255 characters, an error message "File format is illegal" was displayed and the downloading was aborted, has been corrected.
- A restriction that if in the MOV instruction where dest is the address register, you transferred negative data in length of byte and quick format (F8H to FFH), the src data was transferred in 16 bits after being sign-extended (FFF8H to FFFFH) in stead of being zero-extended (00F8H to 00FFH), has been corrected.

9.5.2 Functional Extensions

- Window-related
 - I/O window added
This window is used to set or display virtual port input, virtual port output, and virtual interrupt. Settings of virtual port input and virtual interrupt and the results of virtual port output can be referenced in chart, numeric, or graph form.
 - GUI input window added
It allows you to create a simple key input panel (buttons) of the user target system on a window and perform virtual port input or virtual interrupt by pressing the buttons you've created.
 - GUI output window added
It allows you to implement a simple output panel of the user target system on a window.
- Script commands
 - MR command
Functions to reference the system timer, issue system calls, and reference memory pools have been added.
- Others
 - I/O script function
It allows you write settings of virtual port input or virtual interrupt to a file in script form.
 - Function to specify directory in which to create temporary file
If an on-demand method is specified when downloading the target program, the system creates a temporary file. A function to specify directory in which to create temporary file has been added in this version. Use the Init dialog box to specify the direction in which you want a temporary file to be created.
 - Support for C compiler ICCM16C available from IAR
Using the Init dialog box that opens when PD30SIM is invoked, choose ICCM16C as the compiler you want to use.
 - Function to restore last state terminated has been added.
PD30SIM can be invoked in the last state it was terminated previously, i.e., the previous window position, size, etc. are restored when you start up PD30SIM.
 - Function to save and read software breakpoints
A function to save and read software breakpoints has been added. This function is used from the S/W breakpoint setup dialog box.

9.5.3 Specification Changes

- Window-related
 - Program/source window

A function has been added that allows you to line-assemble from a specified position.
A MIX display mode has been added in which source and disassembled result are displayed together.
 - Source window

A change has been made so that the window will not be closed when downloading the target program. However, if you delete the source file being displayed, the window is closed.
 - RAM monitor window/ASM watch window

Even when the window is closed, settings of display color and sampling period are retained.
- Script commands
 - PORT command

The PORT command, which was used to emulate ports, has been deleted.
 - INTerRupt command

The INTerRupt command, which was used to generate pseudo-interrupts, has been deleted.
- Others
 - Name change

The software name has been changed from PDB30SIM to PD30SIM.
 - Termination of PD30SIM

A change has been made so that PD30SIM now can be terminated while executing the target program.

[MEMO]

10 License Agreement

IMPORTANT

Licensed Copy Number : 1 Copy

DO NOT OPEN THIS PACKAGE NOR INSTALL THE SOFTWARE UNTIL YOU HAVE READ AND AGREED TO THE TERMS AND CONDITIONS SPECIFIED IN THE SOFTWARE USER LICENSE AGREEMENT BELOW

Permission to use this software is subject to your agreeing to the terms and conditions specified in the agreement entitled "Software User License Agreement" below. Please read carefully the Software User License Agreement before you open the package. If you do not agree to the terms and conditions specified in this agreement, do not open the package and return the product to your distributor, with the program disk packaging seal unbroken for a full refund.

Software User License Agreement

The customer (hereafter referred to as "Licensee") and Renesas Technology Corp. (hereafter referred to as "Licensor") do hereby agree to the terms and conditions as specified in this Software User License Agreement (hereafter referred to as "Agreement") concerning the enclosed this software and its explanatory manuals.

ARTICLE 1. Definition

- 1.1 "Licensed Software" shall mean the main unit of the C compiler, Assembler, Simulator and related executable programs, the "Library" as defined in Section 1.3 below and documentation such as explanatory manuals for the Licensed Software and all other materials provided to Licensee in connection with use of the Licensed Software.
- 1.2 "Designated System" shall mean the computer system to be installed Licensed Software. In case of Network environment system, "Designated System" shall mean the computer system to be executed Licensed Software.
- 1.3 "Licensed Copy Number" shall mean the number which is printed at right upper part in this sheet. And it shall mean the number of "Designated System" which you can install Licensed Software and can make the copy of the Master Disk of Licensed Software.
- 1.4 "Library" shall mean a group of function programs that enable operations including, but not limited to input/output and character recognition and that are offered in the forms of a relocatable program.
- 1.5 "Developed Software" shall mean software created by Licensee incorporating all or part of a Library in accordance with the licenses granted to Licensee under the terms and conditions of this Agreement.

ARTICLE 2. License Grant

- 2.1 Licensor grants Licensee a non-exclusive, non-assignable, non-transferable license:
 - (a) to use the Licensed Software solely on the Designated System for Licensee's business purpose of creating and copying Developed Software to be incorporated in the Licensee's products installed with Licensor's Renesas microcomputer (hereafter referred to as "Licensee's Products");
 - (b) to make copies of Licensed Copy Number by installer program of Licensed Software on Designated System for the purposes of using the Licensed Software in accordance with subparagraph (a) above of this Section 2.1 to develop Developed Software in accordance with subparagraphs (c) below of this Section 2.1;
 - (c) to merge the Library with one or more other programs to develop Developed Software, provided

- any portion of the Library so merged continues to be subject to the terms and conditions of this Agreement; and
- (d) to copy the Developed Software in connection with the manufacture and sale of the Licensee's Products incorporating Developed Software, subject to provisions of Article 6 hereunder.

ARTICLE 3. Restrictions

- 3.1 Licensee shall not transfer the rights granted herein or allow any third party to use the Licensed Software.
- 3.2 Licensee shall not remove the copyright notice contained in the Licensed Software.
- 3.3 Licensee shall not sublicense, rent, lease, or assign the Licensed Software.
- 3.4 Licensee shall not reverse assemble, reverse compile or otherwise reverse engineer the Licensed Software.

ARTICLE 4. Title to Licensed Software

- 4.1 All right, title and interest in and to the Licensed Software are shall remain with Licensor. The copyrights in the Licensed Software owned by Licensor are protected by Japanese copyright laws, other applicable intellectual property laws and international treaty provisions. Licensor retains all rights not expressly granted.
- 4.2 The copyrights in the Developed Software as a derivative work of Library shall be owned by Licensee, provided, however, that copyrights in any part of Library contained in such Developed Software shall remain the property of Licensor.

ARTICLE 5. Confidentiality

Licensee acknowledges that the Licensed Software contains valuable proprietary information and trade secrets of Licensor. Licensee shall preserve the Licensed Software in confidence, and shall not provide or disclose the contents of all or any part of the Licensed Software to any third party without written authorization from Licensor.

Licensee will take appropriate action, by instruction, agreement or otherwise, with any persons permitted access to the Licensed Software so as to enable them to hold the Licensed Software in confidence and otherwise to satisfy their obligations under this Agreement.

This Agreement shall not restrict disclosure or use of any information which:

- (a) can be demonstrated by Licensee to be in the public domain when received, or thereafter enters the public domain through no fault of Licensee;
- (b) is known to Licensee at the time of the disclosure by Licensor;
- (c) is received from a third party without any restrictions on disclosure and use; or
- (d) is independently developed by Licensee through persons who have not had access to the Licensed Software.

ARTICLE 6. Term and Termination

- 6.1 This Agreement shall become effective upon Licensee's breaking the packaging seal of the Licensed Software and shall remain in force until terminated by any of the provisions in Sections 6.2 and 6.3 below.
- 6.2 Licensee may terminate this Agreement at any time on thirty (30) day prior written notice to Licensor.
- 6.3 In the event that Licensee shall be in default under this Agreement, Licensor may terminate this

Agreement and all licenses granted hereunder by giving written notice of termination to Licensee, effective upon its sending.

ARTICLE 7. Post-Termination Procedures

- 7.1 In the event of any termination of this Agreement, Licensee shall cease all use of the Licensed Software and shall remove any and all copies of the Licensed Software from the Designated System, shall remove any Libraries contained in the Developed Software from such Developed Software (except for Libraries incorporated in the Licensee's Products already sold), and shall destroy all such copies of Licensed Software.
- 7.2 Licensee shall complete all the obligations described in Section 7.1 above and shall submit written proof to that effect to Licensor within thirty (30) days from the termination of this Agreement.

ARTICLE 8. Proprietary Rights Indemnification

- 8.1 Licensor shall defend or, at its option, settle any claim or proceedings brought against Licensee to the extent that it is based on an assertion that the Licensed Software, used within the scope of this Agreement, constitute direct infringement of any copyright, patent or trademark of a third party and shall indemnify Licensee against all costs, damages and expenses finally awarded against Licensee which result from any such claim, provided that Licensee notifies Licensor promptly in writing of such claim or proceedings and gives Licensor full and complete authority, information and assistance to defend such claim or proceedings, and further provided that Licensee gives Licensor sole control of the defense of any such claim or proceedings and all negotiations for its compromise or settlement.
- 8.2 Should the Licensed Software become, or, in Licensor's opinion, be likely to become the subject of a claim of infringement, Licensor may procure for the Licensee the right to continue using the Licensed Software or replace or modify it to make it non infringing. If neither of the foregoing alternatives is reasonably available to Licensor, then Licensor's sole and exclusive remedy shall be to terminate this Agreement, and to return to Licensee refund of License fees and other expenses paid to Licensor.
- 8.3 Licensor's obligations under this Article 8 shall not apply to any claims of infringement based upon (i) use of other than the latest upgrades of the Licensed Software made available to Licensee by Licensor according to Section 9.2 hereunder if such infringement would have been avoided by the use of such upgrades of the Licensed Software, (ii) combination, operation or use of the Licensed Software with any programs, data or products not furnished by Licensor if such infringement would not have occurred without such combination, operation or use, (iii) use of the Licensed Software after receiving written notice from Licensor that the Licensed Software infringes any patent, copyright or trademark of a third party, or (iv) claimant expresses its intent to license or otherwise resolve its claim only with the Licensee of any apparatus incorporating the Licensee's Products. LICENSOR'S OBLIGATION UNDER THIS ARTICLE 8 CONSTITUTE LICENSEE'S SOLE AND EXCLUSIVE REMEDY FOR A CLAIM OR PROCEEDINGS FOR AND INTELLECTUAL PROPERTY INFRINGEMENT OF A THIRD PARTY.

ARTICLE 9. Limited Warranty, Indemnification and Limitation of Liability

- 9.1 Licensor warrants that it has the right to grant to Licensee a license to use the Licensed Software and that Licensor has the right to enter into this Agreement.
EXCEPT AS SPECIFICALLY PROVIDED HEREIN, LICENSOR DISCLAIM ALL WARRANTIES, REPRESENTATION, PROMISE OR GUARANTEE, EITHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND

FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL LICENSOR BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING WITHOUT LIMITATION, DAMAGES RESULTING FROM LOSS OF USE, LOSS OF DATA, LOSS OF PROFITS OR LOSS OF BUSINESS. THE LICENSED SOFTWARE IS PROVIDED "AS IS", WITH ALL FAULTS.

LICENSEE AGREES THAT LICENSOR'S LIABILITY HEREUNDER FOR DAMAGES, REGARDLESS OF THE FORM OF ACTION, SHALL NOT EXCEED THE CHARGES PAID BY LICENSEE FOR THE LICENSED SOFTWARE. Notwithstanding the foregoing, in the event Licensee find what it believes to be an error or failure of the Licensed Software, Licensor shall make reasonable efforts to correct any such error or failure by taking measures which Licensor deems appropriate provided that Licensee has returned the Customer Registration Card to Licensor. However, Licensor does not guarantee that any measures described above will correct all of the errors or failures.

- 9.2 The warranty coverage under this Agreement does not apply to any error or failure of the Developed Software or any error or failure caused by a modification of the Licensed Software by Licensee or by any negligent act or omission of Licensee.
- 9.3 In the event Licensor provides Licensee with any upgrades or error corrections of the Licensed Software, Licensee may upgrade the Licensed Software under the terms and conditions determined by Licensor. Licensor may request Licensee to submit the Master Disk for the Licensed Software at the time an upgrade is conducted.

ARTICLE 10. Export Control

Licensee hereto represents and warrants that it shall not use any products, software and/or technology provided by Licensor, or any other products, software and/or technology manufactured or developed by using them (collectively hereinafter called, "Products"), for the purposes of disturbing international peace and security, including (i) the design, development, production, stockpiling or use of weapons of mass destruction such as nuclear, chemical or biological weapons or missiles, (ii) the other military activities, or (iii) any use supporting these activities.

Licensee also represents and warrants that it shall not sell, export, dispose of, license, rent, transfer, disclose or otherwise provide the Products to any third party, whether directly or indirectly, with knowledge or reason to know that the third party or any other party will engage in the activities described above.

Furthermore, Licensee represents and warrants that it shall not directly or indirectly, export, re-export, transship or otherwise transfer the Products in violation of any applicable export control laws or regulations promulgated and administered by the governments of the countries asserting jurisdiction over the parties or their transactions.

ARTICLE 11. General

- 11.1 This Agreement constitutes the entire agreement between the parties concerning Licensee's use of the Licensed Software and no waiver, alteration, modification or cancellation shall be binding unless made in writing and signed by the parties.
- 11.2 If any provision of this Agreement shall be held by a court of competent jurisdiction to be illegal, invalid or unenforceable, the remaining provisions shall remain in full force and effect.
- 11.3 This Agreement is made under and shall be construed in accordance with the Laws of Japan. Licensee agrees that any disputes related to this Agreement shall be settled by the jurisdiction of the court determined by Licensor.

LICENSEE ACKNOWLEDGES THAT LICENSEE HAS READ THIS AGREEMENT AND AGREES TO ALL TERMS AND CONDITIONS STATED HEREIN.

Renesas Technorogy Corp.