

Description Notes on Using USB Adapter for
E6000/E6000H/E8000 Emulator
(HS6000EIU02H)

Renesas Microcomputer Development Environment System

HS6000EIU02HE

Rev.2.00

Revision Date: May. 21, 2007

Renesas Technology
www.renesas.com

User's Manual

Notes regarding these materials

1. This document is provided for reference purposes only so that Renesas customers may select the appropriate Renesas products for their use. Renesas neither makes warranties or representations with respect to the accuracy or completeness of the information contained in this document nor grants any license to any intellectual property rights or any other rights of Renesas or any third party with respect to the information in this document.
2. Renesas shall have no liability for damages or infringement of any intellectual property or other rights arising out of the use of any information in this document, including, but not limited to, product data, diagrams, charts, programs, algorithms, and application circuit examples.
3. You should not use the products or the technology described in this document for the purpose of military applications such as the development of weapons of mass destruction or for the purpose of any other military use. When exporting the products or technology described herein, you should follow the applicable export control laws and regulations, and procedures required by such laws and regulations.
4. All information included in this document such as product data, diagrams, charts, programs, algorithms, and application circuit examples, is current as of the date this document is issued. Such information, however, is subject to change without any prior notice. Before purchasing or using any Renesas products listed in this document, please confirm the latest product information with a Renesas sales office. Also, please pay regular and careful attention to additional and different information to be disclosed by Renesas such as that disclosed through our website. (<http://www.renesas.com>)
5. Renesas has used reasonable care in compiling the information included in this document, but Renesas assumes no liability whatsoever for any damages incurred as a result of errors or omissions in the information included in this document.
6. When using or otherwise relying on the information in this document, you should evaluate the information in light of the total system before deciding about the applicability of such information to the intended application. Renesas makes no representations, warranties or guaranties regarding the suitability of its products for any particular application and specifically disclaims any liability arising out of the application and use of the information in this document or Renesas products.
7. With the exception of products specified by Renesas as suitable for automobile applications, Renesas products are not designed, manufactured or tested for applications or otherwise in systems the failure or malfunction of which may cause a direct threat to human life or create a risk of human injury or which require especially high quality and reliability such as safety systems, or equipment or systems for transportation and traffic, healthcare, combustion control, aerospace and aeronautics, nuclear power, or undersea communication transmission. If you are considering the use of our products for such purposes, please contact a Renesas sales office beforehand. Renesas shall have no liability for damages arising out of the uses set forth above.
8. Notwithstanding the preceding paragraph, you should not use Renesas products for the purposes listed below:
 - (1) artificial life support devices or systems
 - (2) surgical implantations
 - (3) healthcare intervention (e.g., excision, administration of medication, etc.)
 - (4) any other purposes that pose a direct threat to human lifeRenesas shall have no liability for damages arising out of the uses set forth in the above and purchasers who elect to use Renesas products in any of the foregoing applications shall indemnify and hold harmless Renesas Technology Corp., its affiliated companies and their officers, directors, and employees against any and all damages arising out of such applications.
9. You should use the products described herein within the range specified by Renesas, especially with respect to the maximum rating, operating supply voltage range, movement power voltage range, heat radiation characteristics, installation and other product characteristics. Renesas shall have no liability for malfunctions or damages arising out of the use of Renesas products beyond such specified ranges.
10. Although Renesas endeavors to improve the quality and reliability of its products, IC products have specific characteristics such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Please be sure to implement safety measures to guard against the possibility of physical injury, and injury or damage caused by fire in the event of the failure of a Renesas product, such as safety design for hardware and software including but not limited to redundancy, fire control and malfunction prevention, appropriate treatment for aging degradation or any other applicable measures. Among others, since the evaluation of microcomputer software alone is very difficult, please evaluate the safety of the final products or system manufactured by you.
11. In case Renesas products listed in this document are detached from the products to which the Renesas products are attached or affixed, the risk of accident such as swallowing by infants and small children is very high. You should implement safety measures so that Renesas products may not be easily detached from your products. Renesas shall have no liability for damages arising out of such detachment.
12. This document may not be reproduced or duplicated, in any form, in whole or in part, without prior written approval from Renesas.
13. Please contact a Renesas sales office if you have any questions regarding the information contained in this document, Renesas semiconductor products, or if you have any other inquiries.

Preface

The USB adapter for the E6000 / E6000H / E8000 emulators is described in this description notes. Read this notes and the user's manuals for the E6000, E6000H, and E8000 emulators.

This USB adapter provides USB connection of the E6000/E6000H/E8000 emulator to a personal computer incorporating Windows[®] with the USB interface, enabling program debugging through an HDI or the High-performance Embedded Workshop.

- Notes:
1. Microsoft[®] and Windows[®] are registered trademarks of Microsoft Corporation in the United States and/or in other countries.
Microsoft[®] Windows[®] 98 Second Edition operating system is referred to as Windows[®] 98SE in this description notes.
Microsoft[®] Windows[®] Millennium Edition operating system is referred to as Windows[®] Me in this description notes.
Microsoft[®] Windows[®] 2000 operating system is referred to as Windows[®] 2000 in this description notes.
Microsoft[®] Windows[®] XP operating system is referred to as Windows[®] XP in this description notes.
 2. Displays in this notes are examples at using the Windows[®] 2000.
 3. Pentium[®] is a registered trademark of Intel.

Contents

Section 1	Overview	1
1.1	System Configuration	1
1.2	Operating Environments	2
1.3	Environmental Conditions	2
Section 2	Components	5
2.1	USB Adapter	6
Section 3	Preparation Before Use	9
3.1	Connecting USB Cable to USB Adapter	9
3.2	Connecting USB Adapter to E6000 Emulator	10
3.3	Connecting USB Adapter to E6000H Emulator	11
3.4	Connecting USB Adapter to E8000 Emulator	13
Section 4	Setting up the USB Adapter	15
4.1	Procedures	15
4.2	Selecting the USB Driver	16
Section 5	Troubleshooting	17
Section 6	External Dimensions of the USB Adapter	19

Section 1 Overview

This section describes the system configuration at USB connection and the USB adapter.

1.1 System Configuration

Figure 1.1 shows the system configuration when connecting the E6000 emulator and the USB adapter. The E6000H and E8000 emulators can be connected in the same way. Refer to figures 3.3 and 3.4 when connecting the E6000H and E8000 emulators and the USB adapter, respectively.

The host computer containing Windows[®] and the USB adapter are connected via the USB cable.

The USB adapter and the E6000/E6000H/E8000 emulator are connected through the PC interface cable.

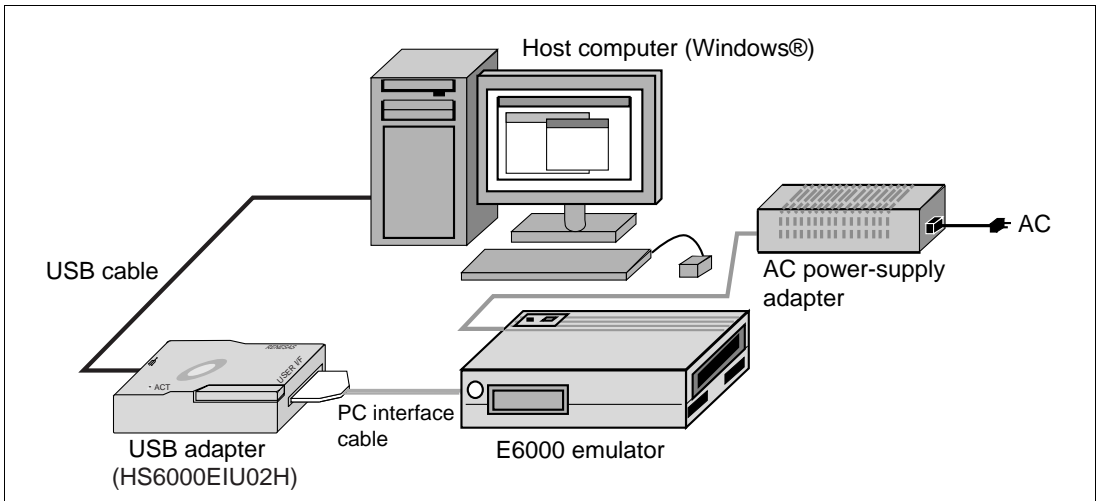


Figure 1.1 System Configuration of E6000 Emulator Connection

1.2 Operating Environments

Table 1.1 Operating Environments

Item	Description
Host computer	Built-in Pentium® or higher-performance CPU (600 MHz or higher recommended); personal computer incorporating Windows® with the USB interface Memory capacity: 128 Mbytes (double or more file size of the load module) Hard disk capacity: 50 Mbytes or more (Prepare an area at least double the memory capacity (four-times or more recommended) as the swap area.)
USB interface	Complied with USB Specification Rev. 1.1
Basic software	Windows® 98SE*, Windows® Me, Windows® 2000, or Windows® XP

Note: The USB interface driver may not operate in some computers incorporating Windows® 98SE.

1.3 Environmental Conditions

CAUTION

Observe the conditions listed in table 1.2 when using the USB adapter. Failure to do so will damage the USB adapter, the emulator product, and the user system.




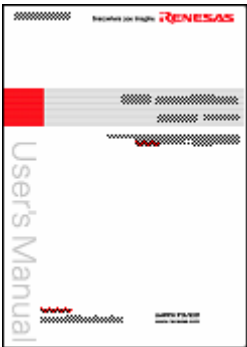
Table 1.2 Environmental Conditions

No.	Item	Specification
1	Temperature	Operating: +10°C to +35°C Storage: -10°C to +50°C
2	Humidity	Operating: 35% RH to 80% RH, no condensation Storage: 35% RH to 80% RH, no condensation
3	Vibration	Operating: 2.45 m/s ² max. Storage: 4.9 m/s ² max. Transportation: 14.7 m/s ² max.
4	DC power-supply	Voltage: DC 5 V Current: 250 mA
5	Ambient gases	There must be no corrosive gasses present.

Section 2 Components

Table 2.1 lists the components of the USB adapter.

Table 2.1 Components

Item	Product Name	Configuration	Quantity	Remarks
Hardware	USB adapter		1	Number of printed circuit boards mounted: 1
	PC interface cable		1	Cable length: 0.5 m
	USB cable		1	Cable length: 1.5 m
Documentation	Description Notes on Using USB Adapter for E6000/E6000H/E8000 Emulator (HS6000EIU02H) (This manual)		1	HS6000EIU02HE

2.1 USB Adapter

Figure 2.1 shows each part of the USB adapter.



Figure 2.1 USB Adapter

Numbers in figure 2.1 indicate the following:

- (1) USB port: Connects the USB cable.
- (2) LED displaying the communication state: This LED is lit if a communication error occurs.
- (3) PC interface cable connector: Connects the emulator.
- (4) Sliding cover: Do not open the sliding cover.

CAUTION

Do not open the sliding cover of the USB adapter. Insertion of foreign objects or substances will damage the USB adapter, emulator, and user system. Failure to do so will result in a FIRE HAZARD and will damage the user system, USB adapter, and emulator product or will result in PERSONAL INJURY.

Section 3 Preparation Before Use

3.1 Connecting USB Cable to USB Adapter

⚠ CAUTION

Always switch OFF the emulator product and user system before connecting or disconnecting the USB adapter.

Failure to do so will result in a FIRE HAZARD and will damage the user system, USB adapter, and emulator product or will result in PERSONAL INJURY.

Use the AC power-supply adapter provided in the package.

(1) Connect the USB cable to the connector marked “” as shown in figure 3.1.



Figure 3.1 Connecting USB Cable to USB Adapter

3.2 Connecting USB Adapter to E6000 Emulator

CAUTION

Always switch OFF the emulator product and user system before connecting or disconnecting the USB adapter. Failure to do so will result in a FIRE HAZARD and will damage the user system, USB adapter, and emulator product or will result in PERSONAL INJURY.

To use the E6000 emulator, connect the USB adapter to the E6000 emulator station via the supplied PC interface cable, as shown in figure 3.2. Check the type and direction of the PC interface cable connector and correctly connect it to the E6000 emulator.

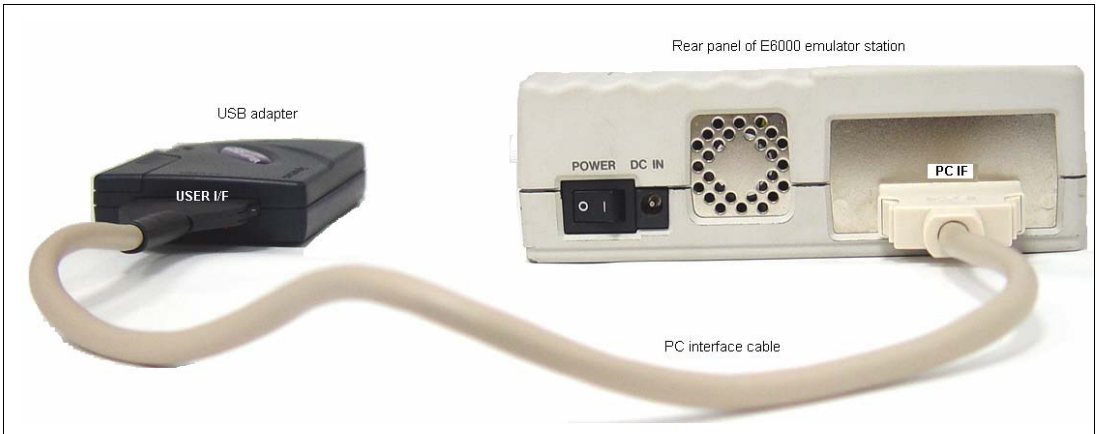


Figure 3.2 Connecting USB Adapter to E6000 Emulator

3.3 Connecting USB Adapter to E6000H Emulator

CAUTION

Always switch OFF the emulator product and user system before connecting or disconnecting the USB adapter. Failure to do so will result in a FIRE HAZARD and will damage the user system, USB adapter, and emulator product or will result in PERSONAL INJURY.

To use the E6000H emulator, connect the USB adapter to the E6000H emulator station via the supplied PC interface cable, as shown in figure 3.3. Check the type and direction of the PC interface cable connector and correctly connect it to the E6000H emulator.

Rear panel of E6000H emulator station

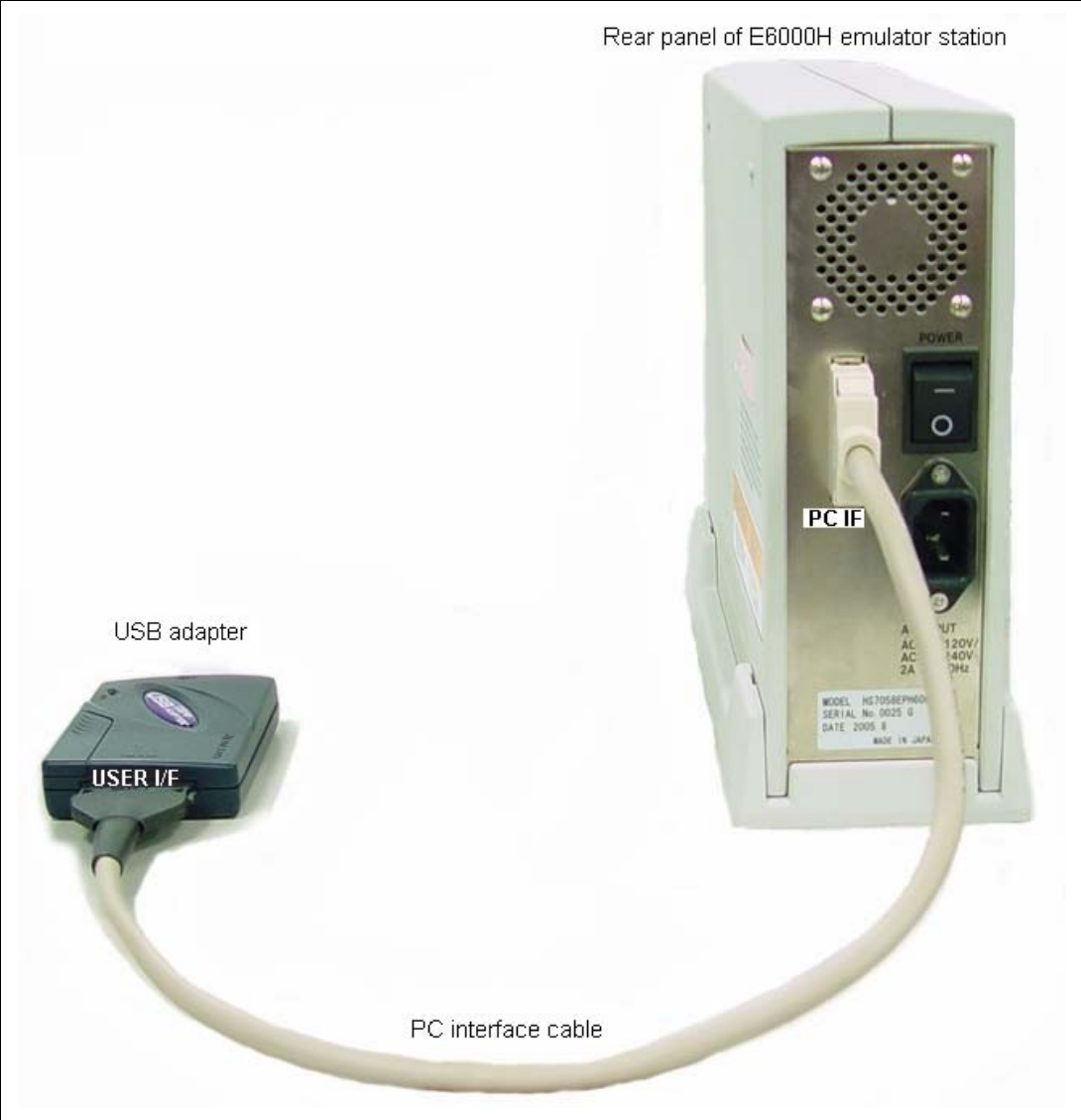


Figure 3.3 Connecting USB Adapter to E6000H Emulator

3.4 Connecting USB Adapter to E8000 Emulator

CAUTION

Always switch OFF the emulator product and user system before connecting or disconnecting the USB adapter. Failure to do so will result in a FIRE HAZARD and will damage the user system, USB adapter, and emulator product or will result in PERSONAL INJURY.

To use the E8000 emulator, connect the USB adapter to the E8000 emulator station via the supplied PC interface cable, as shown in figure 3.4. Check the type and direction of the PC interface cable connector and correctly connect it to the E8000 emulator.

Rear panel of E8000 emulator station

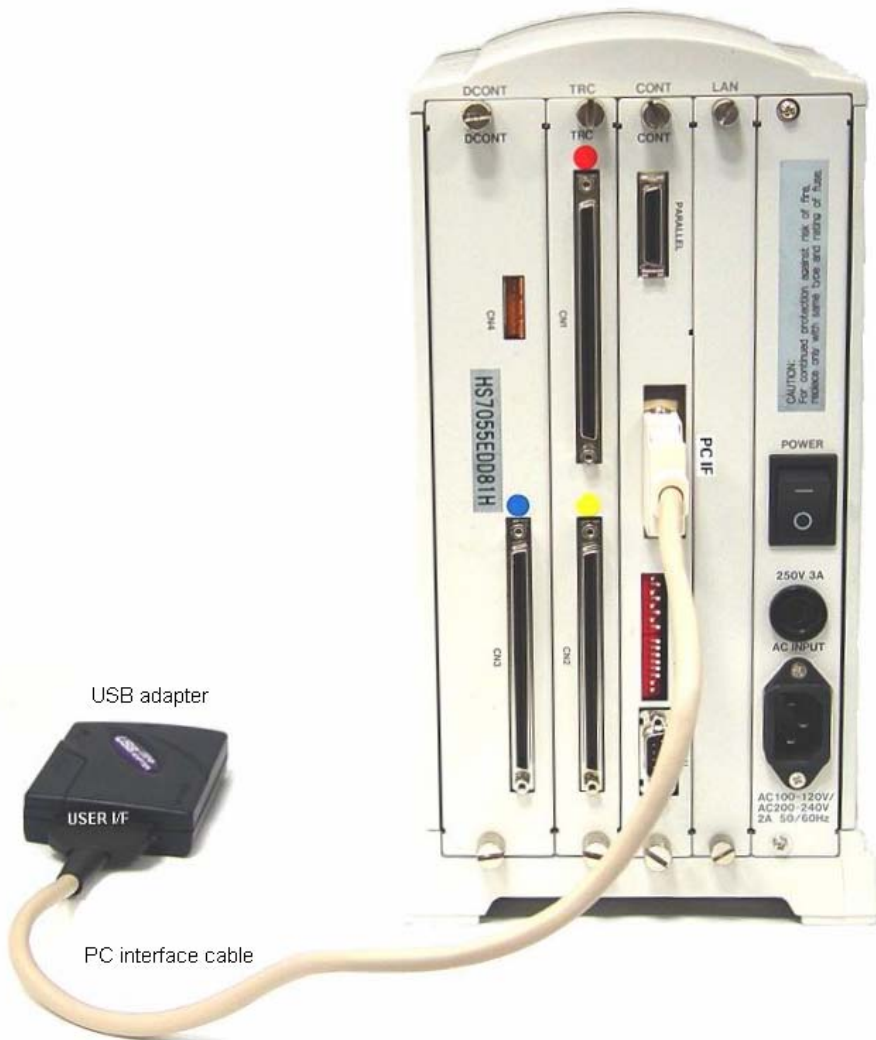


Figure 3.4 Connecting USB Adapter to E8000 Emulator

Section 4 Setting up the USB Adapter

4.1 Procedures

Figure 4.1 shows the setup procedures of the USB adapter.

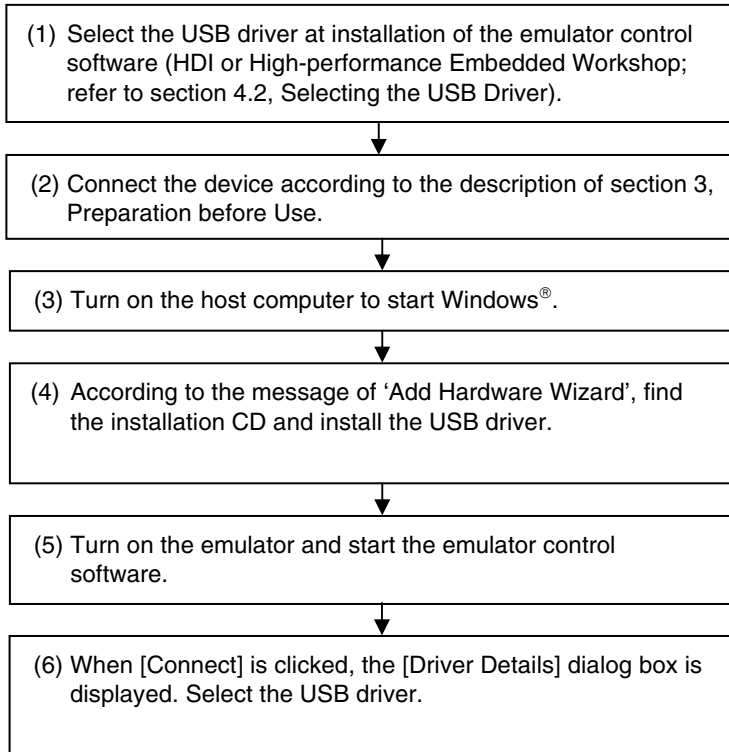


Figure 4.1 Setup Procedures

4.2 Selecting the USB Driver

During installation of the emulator control software (HDI or High-performance Embedded Workshop), select the USB driver in the [Select Components] dialog box.

Even if the [Select Components] dialog box is not displayed in some products, it is not a problem because the driver is automatically installed.

- Notes:
1. If the USB driver is not selected in the [Select Components] dialog box, the USB adapter is not available.
 2. If the USB driver is not displayed in the [Select Components] dialog box, operating environments in table 1.1 will not be satisfied. Check the operating system in use.

Section 5 Troubleshooting

The problems that may occur when using the USB adapter and the measures to be taken are as follows.

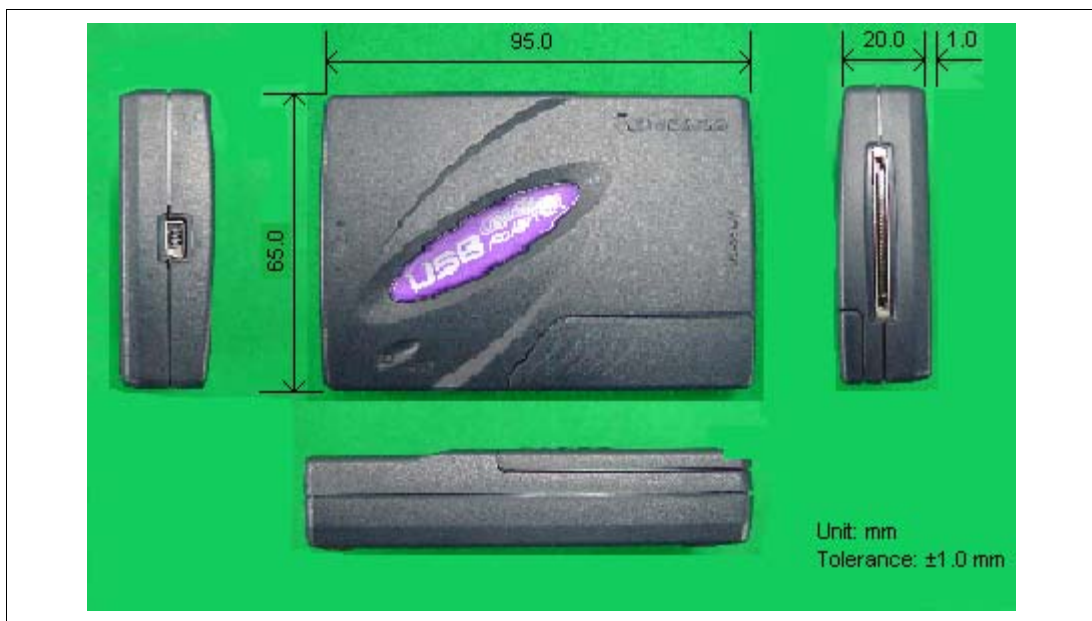
1. The HDI or High-performance Embedded Workshop will not start.
If the emulator is not powered-on, an error message will be displayed when the HDI or High-performance Embedded Workshop is started. Check that the USB adapter and emulator are correctly connected and the emulator is powered-on.
2. The HDI or High-performance Embedded Workshop stops operating.
Check that the USB adapter and emulator are correctly connected.
Check if another HDI or High-performance Embedded Workshop tries to communicate with the USB adapter. Multiple HDIs or High-performance Embedded Workshop cannot use one USB adapter at the same time.
3. The LED is lit for displaying the communication state.
The USB adapter has an LED for displaying the communication state as shown in figure 5.1. This LED will be lit if an error occurs in the USB interface communication.
If this LED is lit after above items 1 and 2 have been checked and have no problems, turn the emulator and the user system off, remove the USB cable from the USB adapter, and connect them again.

If the problem is not solved even if those measures have been taken, there will be a failure in the USB adapter. In such a case, contact Renesas' sales agency.



Figure 5.1 LED for Displaying the Communication State

Section 6 External Dimensions of the USB Adapter



Description Notes on Using USB Adapter for E6000/E6000H/E8000 Emulator (HS6000EIU02H)

Publication Date: Rev. 1.00, January 29, 2004
Rev. 2.00, May 21, 2007

Published by: Sales Strategic Planning Div.
Renesas Technology Corp.

Edited by: Customer Support Department
Global Strategic Communication Div.
Renesas Solutions Corp.

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan



RENESAS SALES OFFICES

<http://www.renesas.com>

Refer to "<http://www.renesas.com/en/network>" for the latest and detailed information.

Renesas Technology America, Inc.

450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited

Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology (Shanghai) Co., Ltd.

Unit 204, 205, AZIACenter, No.1233 Lujiazui Ring Rd, Pudong District, Shanghai, China 200120
Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7898

Renesas Technology Hong Kong Ltd.

7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.

10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology Singapore Pte. Ltd.

1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.

Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

Renesas Technology Malaysia Sdn. Bhd

Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510

Description Notes on Using USB Adapter for E6000/E6000H/E8000 Emulator (HS6000EIU02H)



Renesas Technology Corp.

2-6-2, Ote-machi, Chiyoda-ku, Tokyo, 100-0004, Japan