To our customers,

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April 1st, 2010
Renesas Electronics Corporation

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User's Manual

H8/3854 Series
Expansion Board (HS3854EIO60H) for E6000 Emulator
User's Manual

Renesas Electronics
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Preface

Thank you for purchasing this H8/3854 series expansion board (HS3854EIO60H; hereinafter referred to as the expansion board) for the H8/300L series E6000 emulator.

The expansion board enables user systems for Renesas's original microcomputer H8/3854 series to be developed using an H8/300L series E6000 emulator (HS3L08EPI60H; hereinafter referred to as the emulator) and the H8/3834 evaluation chip set (HS3834EVI60H).

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Section 1 Components

Figure 1 shows the HS3854EIO60H expansion board appearance, and table 1 lists the components of the expansion board. Please make sure you have all of these components when unpacking.

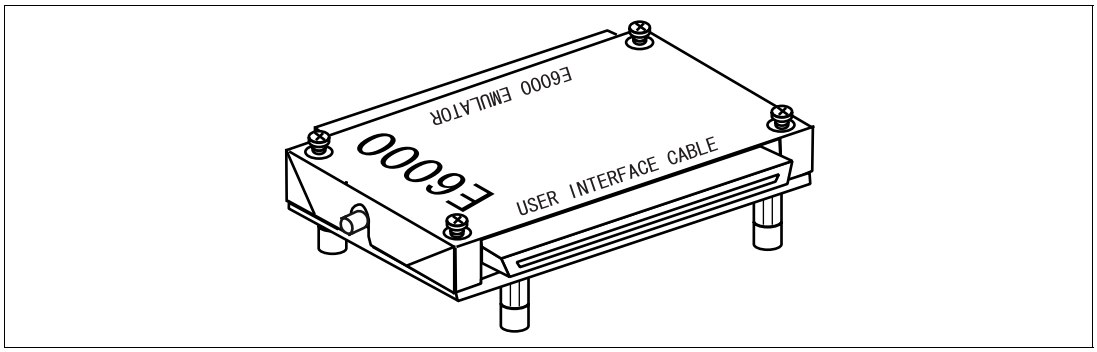

Figure 1 HS3854EIO60H Expansion Board

Table 1 HS3854EIO60H Components

No.	Component	Quantity	Remarks
1	HS3854EIO60H	1	Expansion board
2	Documentation	1	User's manual for HS3854EIO60H (this manual)

Section 2 Connection Procedures

⚠ WARNING

Always switch OFF the user system and the emulator product before the EXPANSION BOARD or USER SYSTEM INTERFACE CABLE is connected to or removed from any part.
Before connecting, make sure that pin 1 on each side is correctly aligned. Failure to do so will result in a FIRE HAZARD and will damage the user system, the emulator product, the user system interface cable, and the expansion board, or will result in PERSONAL INJURY. The USER PROGRAM will be LOST.

2.1 Using Emulator without Connecting User System

1. Make sure the emulator is turned off.
2. After making sure the direction of the expansion board connector labeled E6000 EMULATOR is correct, firmly insert the expansion board connector into the emulator station connector. When the emulator is operated while connected to only the expansion board (without connecting the user system), disconnect the cable body from the expansion board.

2.2 Using Emulator with Connecting User System through User System Interface Cable

CAUTION

When connecting or removing the user system interface cable, apply force only in the direction suitable for connection or removal, while making sure not to bend or twist the cable or connectors.
Otherwise, the cables or connectors will be damaged.

1. Make sure the emulator and the user system are turned off.

2. [1] After making sure the direction of the expansion board connector labeled E6000 EMULATOR is correct, firmly insert the expansion board connector into the emulator station connector ([1] in figure 2).
   [2] Connect the expansion board labeled USER INTERFACE CABLE and the user system interface cable body.

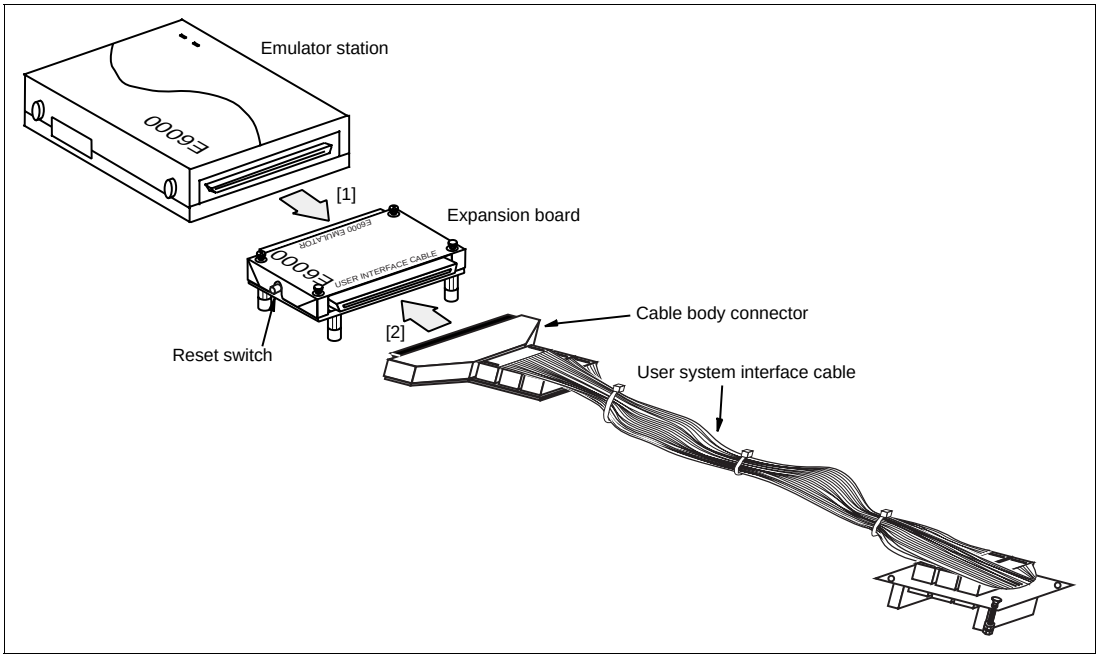

Figure 2 Connecting Expansion Board to Emulator Station and User System Interface Cable

Section 3 Reset Switch

The reset switch is on the side of the expansion board as shown in figure 2. Pressing the reset switch resets the H8/3854 dot-matrix LCD controller (table 2).

Table 2 Reset Types for the Emulator

Reset Type	Condition	H8/3854 Dot-Matrix LCD Controller	H8/3854 CPU and I/O other than LCD Controller
HDI reset commands	Reset CPU Go Reset	—	R
Reset input from the user system during user program execution	User reset is masked by configuration setting	R	—
	User reset is not masked by configuration setting	R	R
H8/3854 expansion board reset switch	Reset switch is pressed	R	—
Emulator power on	Emulator is turned on	R	R

R: Reset is valid, —: Reset is invalid

Section 4 Notice

⚠ WARNING

1. This expansion board is specifically designed for the HS3L08EPI60H emulator and the HS3834EVI60H evaluation chip set. Do not use this expansion board with any other emulator station.
2. Use the H8/3854 series user system interface cable (HS3854ECH61H for FP-100B or HS3854ECN61H for TFP-100G). Do not use any other series of user system interface cable.

1. Do not place heavy objects on the expansion board.
2. Power is supplied from the emulator station to the expansion board.

3. To open the case of the expansion board, remove the four screws on the top panel. To close the case, place the top panel on the expansion board, and fix it with the four screws.

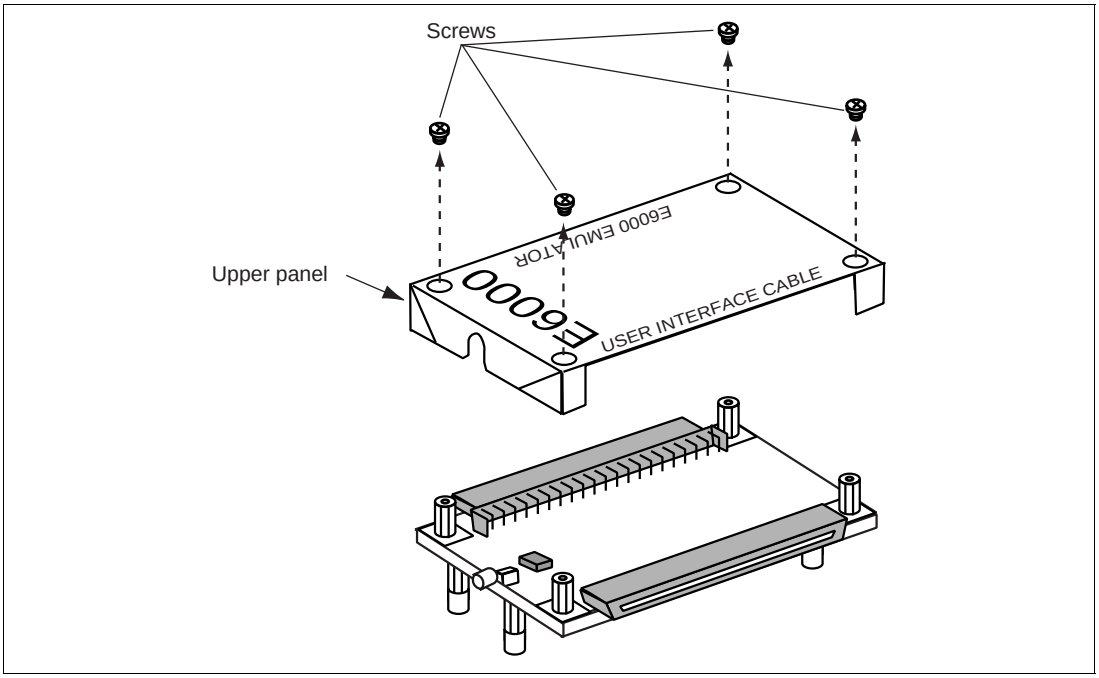

Figure 3 Removing Expansion Board Upper Panel

⚠ WARNING

When using a polarized capacitor, make sure that the polarity is correct when installing the capacitor.
Failure to do so will result in a FIRE HAZARD and will damage the user system, the emulator product, the user system interface cable, and the expansion board, or will result in PERSONAL INJURY.

4. To prevent breaking of wires in the expansion board, do not place heavy or sharp metal objects on the expansion board while the case is open.