



HyperSTAC™ H8S/2214/15 In-Circuit Emulator



- ❑ Supports Renesas Technology H8S/2214/15, H8S/2218, 2212, 2239, H8S/2268, 2264
- ❑ Supports maximum 25 MHz clock
- ❑ Optional probe end adapters are available to support different MCU packages
- ❑ Internal access trace capability
- ❑ View/modify internal peripheral registers
- ❑ Unlimited software breakpoints
- ❑ Flash ROM download capability
- ❑ 4M Emulation Memory as standard
- ❑ USB and LAN host interfaces supported for high-speed communication with host computer
- ❑ Watchpoint®, a powerful high-level language debugger for Windows®, provides common user interface for all Sophia Systems emulators
(USB: Windows98/Me/2000/XP)
(TCP/IP: Windows98/Me/NT/2000/XP)
- ❑ IBM PC/AT or compatible, NEC PC98, and Notebook PC

Specifications

Target CPU	H8S/2214, 2215, 2218, 2217, 2212, 2211, 2210, 2339, H8S/2262, 2264, 2265, 2266, 2268
Emulator CPU	H8S/2238EVA chip, PGA401-pin
Memory and I/O	Entire space is available to user.
Packages	2214, 2239: TFP-100G, FP/TFP-100B(0.5mm pitch) 2215: TFP-120, TBP-112 2217, 2218: TFP-100G 2210, 2211, 2212: FP-64E 2268,2266,2265,2264,2262:TFP/FP-100B, TFP-100G
Interrupts	Both internal and external interrupts are available for real-time MCU execution.
CPU Clock	Maximum 25 MHz
Target Voltage	2.7V ~3.6V
Breakpoints and Break options	Execution address break options: <ul style="list-style-type: none"> • 5 hardware breakpoints, 2 after execution breakpoints • Unlimited software breakpoints Other break options: <ul style="list-style-type: none"> • Forced break from Debug Monitor • Break on Write-protect error • Break on Access-protect error • Break on Trace-End
ICE Environment Settings	Enable/disable bus cycle time-out
Reset	Reset the MCU during program execution
Emulation Memory	Internal ROM 512K, 64K internal RAM, 4 Mbytes SRAM is available for emulation memory as standard. Memory block can be mapped to SYSTEM/USER with Write-protect, Access-protect

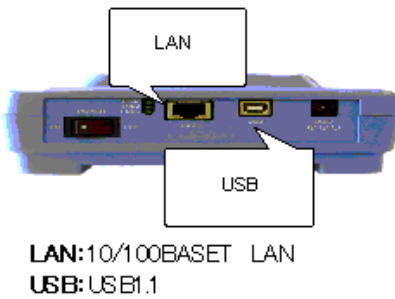
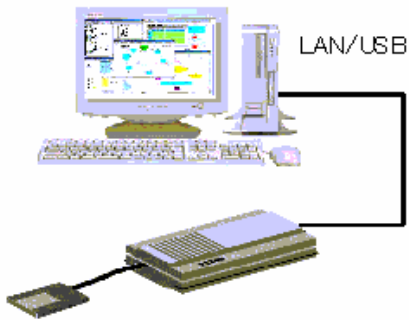
Real-time Trace	-64K clock cycles branch trace storage capacity -Store trace address, data, status, external control signal Real-time Trace Mode: Free run- Continuously records Trace data And- Triggers when all of the points are satisfied (any sequence) Or- Triggers when one of the points is satisfied. Sequential- Triggers on sequential levels Sampling- Records specific trigger cycles Trigger Point Conditions: The following conditions can be specified when defining trigger points: Address: Specify a memory address or address range. (Maskable) Data: Specify a data value (Maskable) CPU Status: Specify (CPU signals, External trigger).
Download to Flash memory	Download to the Flash memory in the target system
Bus Monitor	Monitor a specific block of memory data bus in real-time
Coverage Performance Analyzer	The following measurements can be performed Profile: Measures the frequency of the program cycle, or the module cycle within the respected address spaces. Coverage: Measures the ratio of instruction execution, access data address spaces. Performance: Measures the time of the program execution cycles, the function execution time.

Configuration

The HyperSTAC is the latest state of the art emulator, which connects directly to your PC/AT or notebook computer and provides a high level of software debugging for embedded system development.

Hardware

The HyperSTAC H8S/2214/15 Emulation System consists of the H8S/2214/15 Probe Set and with USB host interface or LAN interface as an option.



Software

Watchpoint®, a high-level language debugger for Windows®, is included with the H8S/2214/15 Probe Set.

Media:

CD-ROM

Supported Tool Chains:

Watchpoint supports the following compiler and assemblers:

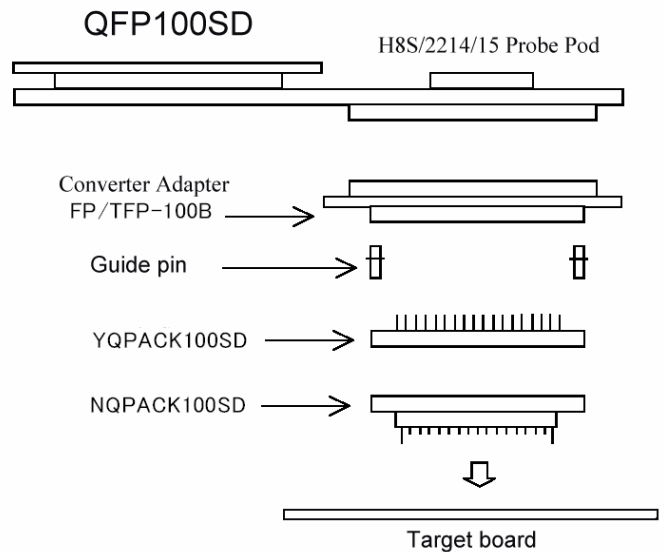
- Supported compiler

Renesas (Formerly Hitachi)	H8S series
IAR	ICC H8S/2215

- Supported OS

NORTI3, 4	Hi8/2600
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Target Connection



* For some adapters, guide holes on the target are recommended in order to better position the adapter with the target to be soldered.

Ordering Information

Part No.	Description
HY44004E	Probe Set, HyperSTAC H8S/2214/15 with USB interface, and Watchpoint® H8S/2214 debugger
HY44005E	Probe Set, HyperSTAC H8S/2214/15 with USB & LAN interface, and Watchpoint® H8S/2214 debugger

-Option-	
CS2242E	Extension Cable SH704x

Probe End Adapters


CPU	Package	Adapter/Sockets	CPU	Package	Adapter/Sockets		
H8S/2214/39	FP/TFP-100B	CS2245R: 2633-PB-QF100SD-AD	H8S/2215	TBP-112	CS2644A: 2215-PB-TBP112-AD		
		CS2231B: YQPACK100SD			Al's sockets(* See Note 3) 2 pieces		
		CS2231C: NQPACK100SD		TFP-120	CS2644D: 2215-PB-TF120-AD		
	TFP-100G	CS2245P: 2633-PB-QF100SE-AD			CS2243B: YQPACK120SE		
		CS2245S: YQPACK100SE	CS2245Y: NQPACK120SE				
		CS2245T: NQPACK100SE	H8S/2218	TFP-100G	CS2644Q: 2218-PB-TFP100G-AD(USB)		
H8S/2212	FP-64E	CS2644V: 2212-PB-FP64E-AD			H8S/2268, 2264 series	FP/TFP-100B	CS2646B: 2268-PB-TFP100B-AD
		CS2641B: YQPACK064SD					CS2231B: YQPACK100SD
		CS2641C: NQPACK064SD	CS2231C: NQPACK100SD	TFP-100G	CS2646A: 2268-PB-TFP100G-AD		
		CS2245S: YQPACK100SE	CS2245T: NQPACK100SE				

Note1: CPU package should be selected from the above list to choose the probe pod adapters required on debugging.

Note2: For H8S/2215 series, 2218 series, and 2212 series, the product does not work without the special adapters and the target.

Note3: There are limitations on specification for 2268, 2264 series. Contact us about the detail. Extension cable is not available for this series.

Note4: The following HQPACK or CPU mount sockets are required for the operation with CPU.

FP/TFP-100B	---	CS2231H	HQPACK100SD	TFP-120	---	CS2245W	HQPACK120SE
TFP-100G	---	CS2245U	HQPACK100SE	TBP-112	---	Al's FJA112-732G	
						---	Al's FJS112-702GG
						---	Al's FJS112-731GG  or

Minimum Host System Requirement

OS: <USB>Windows98/Me/2000/XP <TCP/IP>Window98/Me/NT/2000/XP
Memory: 32 MB (64 MB recommended)
Hard Disk: 20 MB

All configurations are subject to change without notice.

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Windows98/Me/NT/2000/XP is a registered trademark of Microsoft Corporation.

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