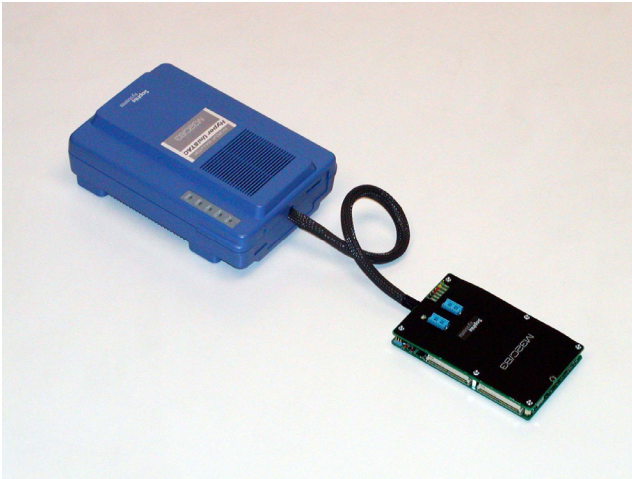


HyperSTAC™ M16C/62P In-Circuit Emulator



- Supports Renesas Technology (formerly Mitsubishi) M16C/62P microcontrollers
- Real-time execution with 0 wait state up to 24 MHz when using internal Flash of the chip
- Optional probe end adapters are available to support different MCU packages
- Internal access trace capability
- Unlimited software breakpoints
- Flash ROM download capability
- View/modify internal peripheral register
- 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	M16C/62P series
Emulator CPU	M30627FHPGP (internal Flash 384K bytes type)
Memory and I/O	Minimal space is required for monitor area
Packages	100P6S-A (100-pin, 0.65mm) 100P6Q-A (100-pin, 0.5mm) 128P6Q-A (128-pin, 0.5mm)
Interrupts	Both internal and external interrupts are available for real-time MCU execution.
CPU Clock	Maximum 24 MHz
Target Voltage	5V to 3V
Breakpoints and Break options	Execution address break options: <ul style="list-style-type: none"> • 4 hardware breakpoints (execution address break) • 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
Reset	Reset the MCU during program execution
ICE Environment Setting	Enable/disable bus cycle time-out Enable/disable target control signals: RES-, NMI
Emulation Memory	Internal ROM 516K(either internal Flash or the special emulation memory)*, internal RAM (using CPU internal resources) 1 Mbyte emulation memory as standard * The use of special emulation memory requires the access time limit.

Real-time Trace	-64K clock cycles branch trace storage capacity -Store trace address, data, status, external control signal Real-time Trace Mode: (Max 5 points) 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).
Flash Memory	Download to flash memory on the target system
Bus Monitor	Monitor a specific block(16 bit access, 8Kbytes unit, 4 areas) 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 M16C/62P Emulation System consists of the M16C/62P 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 M16C/62P Probe Set.

Media:

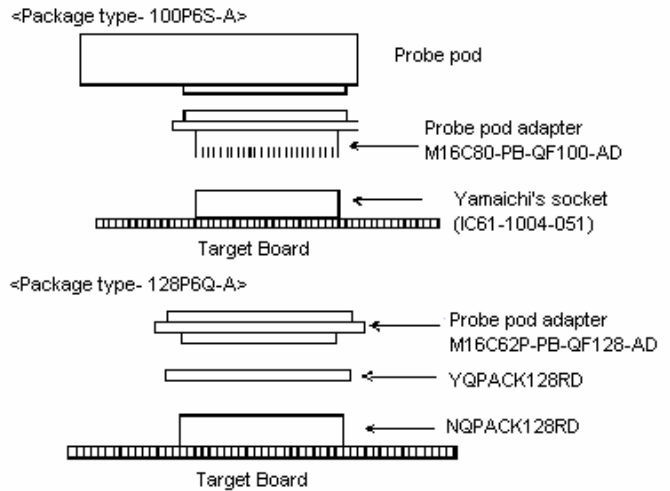
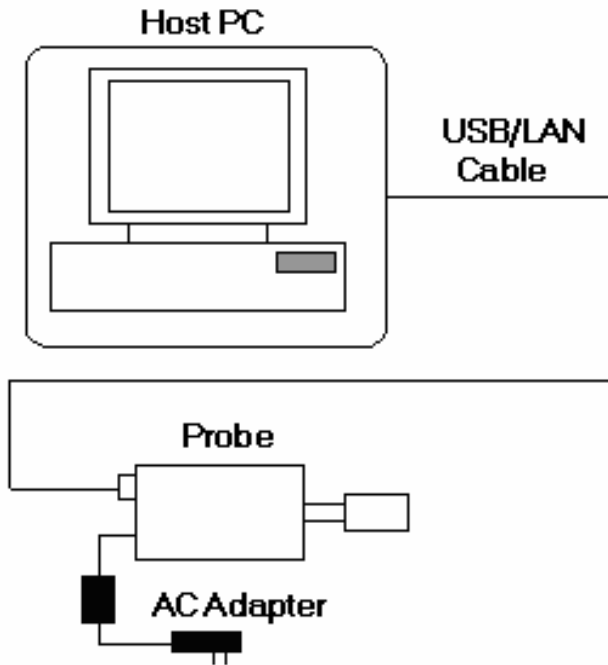
CD-ROM

Supported Tool Chains:

Watchpoint supports the following compiler and assemblers:

Renesas M16C/60 series compiler

Target Connection



Ordering Information

Part No.	Description
HY60001E	Probe Set, HyperSTAC M16C/62P with USB interface, and Watchpoint® M16C/62P debugger
HY60000E	Probe Set, HyperSTAC M16C/62P with USB & LAN interface, and Watchpoint® M16C/62P debugger

Probe End Adapters

Support Package	Part Number	Description
100P6S-A (100-pin, 0.65mm)	CS2253A	M16C80-PB-QF100-AD
	Yamaichi's socket	IC61-1004-051
100P6Q-A (100-pin, 0.5mm)	CS2650A	M16C62P-PB-QF100S-AD
	CS2231B	YQPACK100SD
	CS2231C	NQPACK100SD
128P6Q-A (128-pin, 0.5mm)	CS2651A	M16C62P-PB-QF128-AD
	CS2245B	YQPACK128RD
	CS2245C	NQPACK128RD

Minimum Host System requirements for HyperSTAC/Watchpoint M16C/62P Debugger:

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

All configurations are subject to change without notice. Watchpoint is a registered trademark of Sophia Systems Co., Ltd. HyperSTAC is a trademark of Sophia Systems Co., Ltd. Windows98/Me/NT/2000/XP is a registered trademark of Microsoft Corporation. All other brands and product names are trademarks or registered trademarks of their respective companies. The specification is subject to change at any time.



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