

# HiCO.SH3

Embedded PC based on SuperH SH3-DSP



## Overview:

- Processor Renesas Super SH3-DSP (SH7727-160MHz): >200MIPS
- Low power consumption - only 1.5 Watts with graphics, hence no heat sink required
- On board memory: 16/32 MB Flash / 64 MB SDRAM
- Internal graphic controller for LCD / optional: SVGA with support for CRT/LCD
- 10/100 Ethernet interface
- USB host, USB device, audio and serial interfaces
- Standard ISA bus interface and PC/104 connector on HiCO.SH3-base carrier module
- Socket for MMC on carrier module

## Order Codes:

- HiCO.SH3-104-I PC/104 board with HiCO.SH3-core-I and HiCO.SH3 base
- HiCO.SH3-104 PC/104 board with HiCO.SH3-core and HiCO.SH3 base
- HiCO.SH3-core-I Core module with 64 MB RAM/32 MB Flash
- HiCO.SH3-core Core module with 64 MB RAM/16 MB Flash
- HiCO.SH3ST-CE4.2 Starter kit with Windows CE4.2
- HiCO.SH3ST-Linux Starter kit with Linux
- HiCO.SH3-con Connector board



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### Modular Concept

The HiCO.SH3 provides high performance processing at an extremely low level of power consumption - 200MIPS at 1.5 Watts! The system comprises of a CORE module and a PC/104 carrier board. The CORE module can be integrated on its own at minimum cost into high volume application specific products.

Alternatively, for low to medium volumes, the CORE module can be mounted to the HiCO.SH3-base carrier board.

The HiCO.SH3-con module offers standard PC sockets for easy connectivity to the outside world. Not only does this aid prototyping in the lab, it can also be integrated into full-scale production units.

The CORE Module HiCO.SH3-core comprises of:

- Highly integrated SuperH SH3-DSP (SH7727)
- 16/32 MB Flash and 64 MB SDRAM
- Supervisor and I/O controller
- USB host, USB function, audio-codec and 3 serial interfaces
- Internal graphics controller with 4-wire touch
- 10/100MBit Ethernet interface
- CPU Bus interface
- Fine-pitch connectors for mounting on any desired carrier board (e.g. HiCO.SH3-base)
- Board size: 90mm x 72mm

The carrier module HiCO.SH3-base adapts the CORE to a PC/104 module and provides:

- PC/104 (ISA-bus) interface for expansion
- Socket for MMC
- SVGA graphic controller for LCD/CRT
- Audio interface
- Fieldbus CAN (option)

The HiCO.SH3-con adapter module provides connectivity to standard PC components via the standard connectors, like DSUB9 for RS232.

### Software's Already Available

The use of standard real-time operating systems and development environments eases application development. Some of the software solutions already available for the Renesas SuperH processor family are:

- Microsoft Windows CE
- WindRiver VxWorks
- Linux / Embedded Linux
- GNU Compiler/Debugger
- QNX

emtrion delivers a pre-installed version of Microsoft Windows CE, allowing developers to immediately get to work on creating their own applications.

### Get into it with a Starter Kit

For quick and easy setting up of the target system and the development environment, we recommend using our extensive starter kits and accessories.

The popular Windows CE Starter Kit from emtrion is available with the HiCO.SH3 embedded PC as the target platform. The kit comprises of a HiCO.SH3 system with a preinstalled and adapted Windows CE kernel and the Microsoft development environment for application development, which includes eMbedded Visual Tools and a version of PlatformBuilder together with useful accessories and excellent detailed documentation.

The preinstalled Windows CE kernel uses a bootloader that has been developed by emtrion and an OAL (OEM Adaptation Layer) that has been optimally adapted to the hardware. This results in industry attractive features such as boot times of only 2-3 seconds, CAN fieldbus support, system update on-the-fly (without the need to exchange hardware) and real-time interrupts and timer.



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