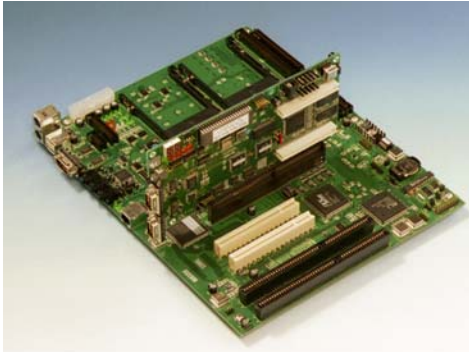Empowered by Innovation **NEC**

SolutionGear™
(RISC Microcontroller Reference Platform)

Strongly supporting short development TAT through software turnkey system and user board
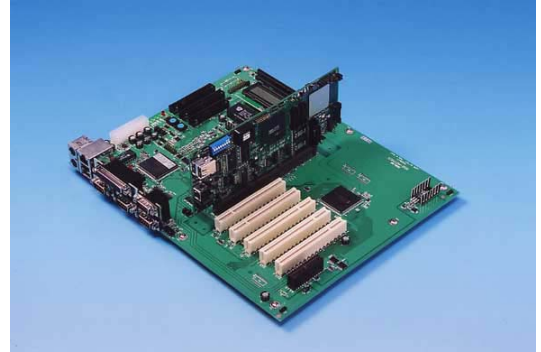
SolutionGear I
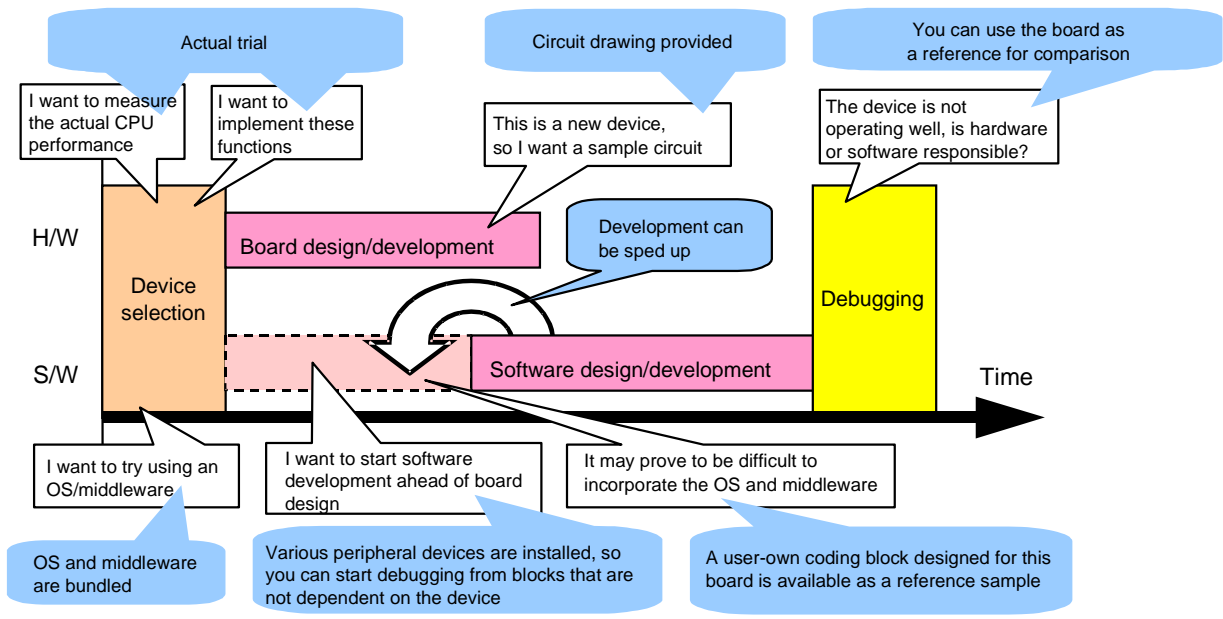**General-purpose platform for V850 Series**

SolutionGear II
Platform focused on performance for V$_R$™ Series

FEATURES

♦ **Ideal:**
  For evaluation of CPU/OS/middleware when selecting device
  When developing software ahead of board under development
  As a reference for board development
  For benchmark measurement using actual CPU

♦ **CPU board provided for each device**
♦ **Motherboard not dependent on CPU**
♦ **Industry-standard and PC-compatible interfaces installed**
♦ **Reference design information supplied**
♦ **PC frame, power supply, and peripheral devices can be used**

Actual trial

Circuit drawing provided

You can use the board as a reference for comparison

I want to measure the actual CPU performance

I want to implement these functions

This is a new device, so I want a sample circuit

The device is not operating well, is hardware or software responsible?

H/W

Board design/development

Development can be sped up

Device selection

Debugging

S/W

Software design/development

Time

I want to try using an OS/middleware

I want to start software development ahead of board design

It may prove to be difficult to incorporate the OS and middleware

OS and middleware are bundled

Various peripheral devices are installed, so you can start debugging from blocks that are not dependent on the device

A user-own coding block designed for this board is available as a reference sample

# V850 Series
**32-bit RISC Microcontrollers**

SolutionGear I

CPU BOARD

◊ CPU, ROM, SDRAM, and SRAM mounted

◊ LAN, USB, and CF interface installed (V850E/ME2)

◊ Supports Multi or PARTNER remote monitor

◊ Supports ID850MON remote monitor (V850E/ME2)

◊ N-Wire interface installed (V850E/ME2)

◊ Supported CPU

- V850E/MA1 [Max.: 50 MHz] (Part No.: SG-703107-1)
- V850E/ME2 [Max.: 150 MHz] (Part No.: SG-703111-1)

V850E/MA1 CPU Board (110 mm × 200 mm)
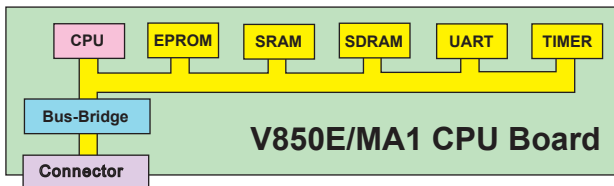
V850E/ME2 CPU Board (107 mm × 237 mm)
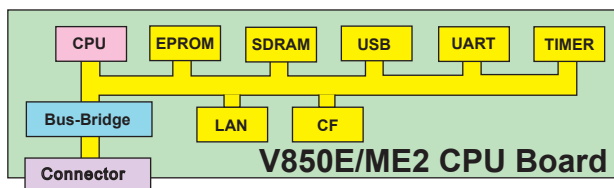
MOTHERBOARD

◊ Hardware supporting middleware such as speech I/O mounted on the board

◊ PCI, ISA, PCMCIA, E-IDE, LAN, SIO, PIO, USB, keyboard, mouse, and other PC-compatible interfaces installed

◊ PC frame, power supply, and peripheral devices can be used (ATX standard)

◊ Supports various V850 Series CPUs

◊ Part No.: SG-MOTHER-1
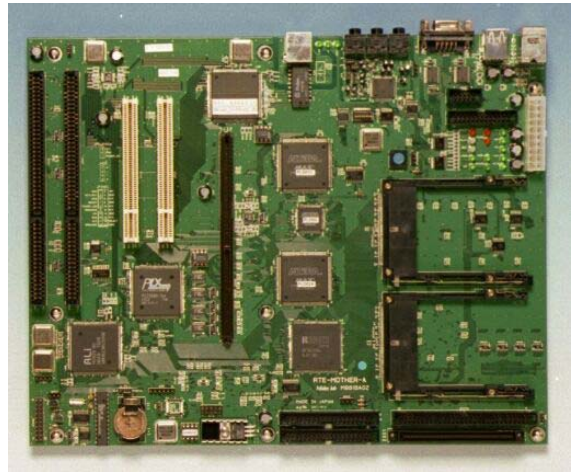
Motherboard (244 mm × 305 mm)
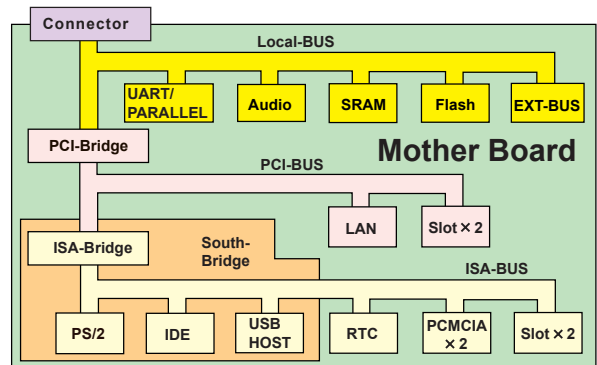
INCLUDED SOFTWARE

◊ μITRON-compliant real-time OS RX Series (RX850 Pro)

◊ TCP/IP software library (RX-NET)

◊ Speech recognition middleware

◊ Text-to-speech middleware

◊ JPEG middleware

◊ Various device drivers (sample)

V_R Series
**64-bit RISC Microprocessors**

SolutionGear II

CPU BOARD

◊ CPU, PCI bridge (excluding V_R4131), Flash memory, PROM, and SDRAM mounted
◊ PMON monitor installed
◊ N-Wire interface installed
◊ Connected to motherboard with PCI bus and local bus
◊ Supported CPU
  • V_R5500 [Max.: 400 MHz] (Part No.: SG-30550-2)
  • V_R4131 [Max.: 200 MHz] (Part No.: SG-30131-2)
  • V_R4133 [Max.: 266 MHz]* (Part No.: SG-30133-2)
                                          * Under development

V_R5500 CPU Board (84 mm × 184 mm)
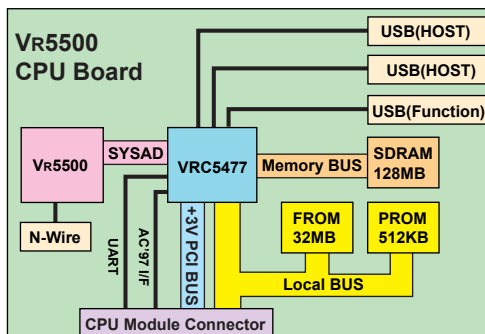
V_R4131 CPU Board (75 mm × 180 mm)
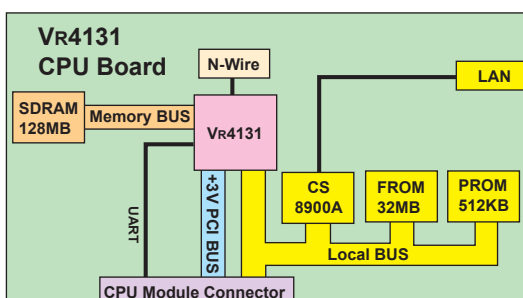
MOTHERBOARD

◊ Two +3 V PCI slots and three +5 V PCI slots provided
◊ PCI, E-IDE, LAN, SIO, PIO, USB, keyboard, mouse, and other PC-compatible interfaces installed
◊ PC frame, power supply, and peripheral devices can be used (ATX standard)
◊ AC'97 interface of AMR connector provided
◊ NVRAM (clock unit embedded) installed
◊ LCD console (16 columns × 1 row) installed
◊ Part No.: SG-MOTHER-2
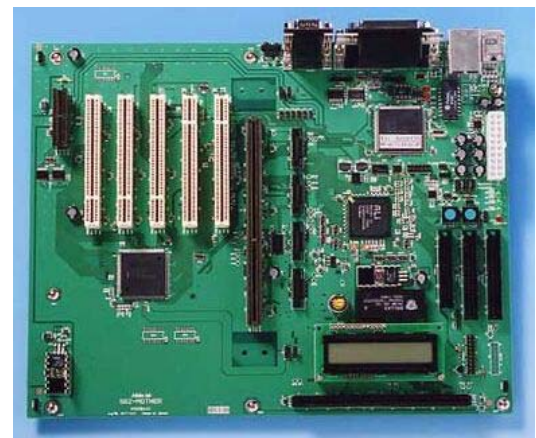
Motherboard (244 mm × 305 mm)
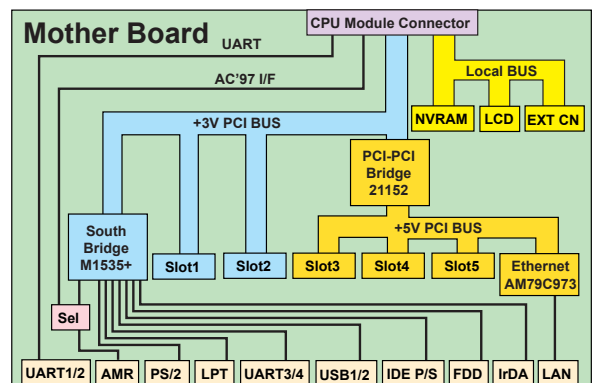
THIRD-PARTY SOFTWARE

◊ Tornado2™/VxWorks™ (Wind River Systems)
◊ Windows™ CE (Microsoft)
◊ MontaVista™ Linux™ (MontaVista Software)

THIRD-PARTY HARDWARE

◊ Graphics board: MQ200 made by MediaQ
◊ Graphics board: CyberPro5050 made by Tvia
◊ CardBus/PCMCIA board:
         R5C485/R5C486 made by Ricoh
◊ Board supporting CardBus/PCMCIA & Flash Card:
         R5C811/R5C812 made by Ricoh

SolutionGear I / SolutionGear II CONFIGURATION (can be used from day of purchase)

Download using monitor or in-circuit emulator by connecting personal computer

You can use it from the day you bought it!

RTOS/middleware sample program manual circuit diagram

+

SolutionGear I / SolutionGear II

* The third-party products can be purchased from each third party.
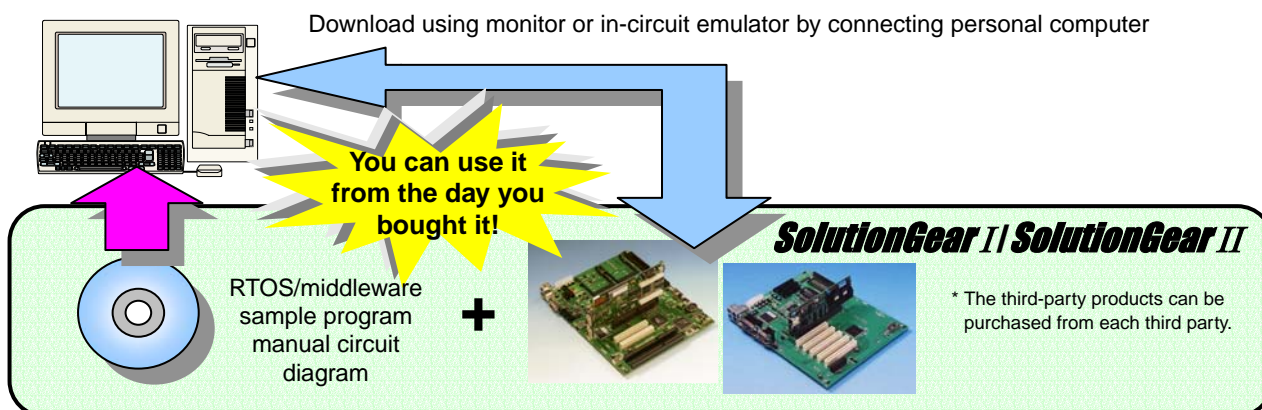
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