µT-Engine/V850E-MA3 Development Kit

An Open Development Platform for Embedded Systems

T-Engine

The CPU Board of the µT-Engine/V850E-MA3 Development kit (in full-scale)

If you have any questions, please feel free to contact us.
E-mail: te-sales@personal-media.co.jp

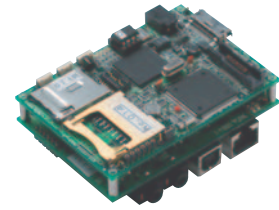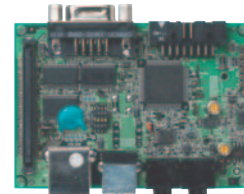| CPU Board	
CPU	NEC Electronics V850E/MA3 (uPD70F3134AY, 106MIPS, 80MHz)
Flash Memory	512KB
SDRAM	32KB
Input/Output I/F	Compact Flash (CF) card, Serial, eTRON chip I/F, MultiMedia card (MMC), Expansion bus (PCI compatable), JTAG-ICE I/F
Others	RTC
Power Supply	AC adapter
Dimensions	60 x 85 mm (2.362 x 3.346 inch, excluding protrusions)
Extension Board	
Flash Memory	1MB (Extension Board)
LAN	SMSC LAN Controller (LAN91C111) 100BASE-T/10BASE-T
USB (Function)	NEC Electoronics USB2.0 controller (uPD720122)
Others	Sound input, Sound output
Connectors	LAN Connector, USB Type B Connector, Serial I/F, Microphone, Headphone, Speaker, Extension bus Connector
Dimensions	60 x 85 mm (2.362 x 3.346 inch, excluding protrusions)

photo1: µT-Engine/V850E-MA3 Development Kit

photo2: Extension Board

PRODUCT SPECIFICATION

Supplied Software

For T-Engine target board
- PMC T-Monitor
- PMC T-Kernel
  T-Kernel/OS, T-Kernel/SM, T-Kernel/DS
- Device drivers: source code included
  Clock (RTC), Console (serial), System disk (CF, MMC Card)
- Sample applications: Source code included
- Drivers for LAN, USB and Sound not included
Note:
  - Customers are allowed to execute the above software on T-Engine/V850E-MA3 Development Kit only. If the above software are executed on another hardware (or embedded in a final product), a separate license is required. Please contact us for further information.

For development machine
- GNU development environment with source code GNU based development environment running on PC-based Linux and Windows (Cygwin), including GDB source debugger.

Optionals

T-Engine Development Bench (acrylic board)

Dedicated Conectors for Extension Bus of T-Engine /µT-Engine

Main Package Details

- Hardware
  - µT-Engine specification CPU board with V850E-MA3
  - Extension Board
  - AC adapter
  - RS232C (serial) cable
- CD-ROM
  T-Kernel and other software and various documentation
- Others
  Packing list, Software License Agreement, etc.

Documentation

The following documentation are being supplied in electronic files:
- Development Kit User's Manual
- Library Manual
- Device Driver Manual
- GNU Development Environment Manual
- GNU Development Environment Manual (for Windows)
- T-Monitor Specification
- T-Kernel Specification
- T-Monitor/T-Kernel Implementation Specification
- Hardware User's Manual (circuit diagrams provided)

System Requirements for GNU Development Environment

- PC/AT compatible Linux
  • Confirmed package: RedHat Linux 7.1 / 7.3 / 8.0 / 9.0, Red Hat Professional Workstation.
- Windows (Cygwin)
  • Confirmed package: Cygwin on Windows XP Professional

Reference Books and Related Information

- T-Kernel Kumikomi Programing Kyokasho (A Practical Guide to T-Kernel Embedded Programing), Ken Sakamura (Ed.), 4200yen.
- T-Kernel Standard Handbook, Ken Sakamura (Ed.), 3800yen.
  * English documents are included as PDF files on CD-ROM.
- T-Engine, T-Engine2, T-Engine3 (TRONWARE extra edition), 1600yen (each).
- TRONWARE Vol.1-109 (TRON bimonthly magazine, scheduled to be continued),1200yen (ordinary issue).
- µITRON 4.0 Standard Guidebook, Ken Sakamura (Ed.), 3200yen.
  * The above books are published by Personal Media Corporation in Japanese. Tax is not included.
- T-Engine Forum   http://www.t-engine.org/
- TRON Project   http://www.tron.org/
- Personal Media Corporation
  (T-Engine Solution Website)
        http://www.t-engine4u.com/en/index.html

Personal Media Corporation