

Portable Terminal for Evaluation of Ubiquitous Computing

UC (Ubiquitous Communicator)



UC(Ubiquitous Communicator) is the portable information tool which can realize the efficient communications by person and object or person and place in a ubiquitous computing environment.

UC is equipped with ucode tag reader. Therefore UC can be used for a wide variety of applications such as e-commerce, traceability, autonomous transfer support, if you develop software using the attached software materials.

Features of UC

- UC is the personal terminal for a ubiquitous computing age, equipped with RFID reader and the other advanced functions.
- A lot of peripheral I/O functions including the built-in camera are available.
- UC is one of the T-Engine appliances, which OS is T-Kernel. Software for UC are nearly compatible with software for T-Engine.
- The GUI middleware package "PMC T-Shell" for UC is also available. Using PMC T-Shell, you can save time of developing programs which include a collaboration of UC, peripheral I/O and GUI functions.

UC Hardware Specifications

CPU	32bit RISC Chip (144MHz)
Flash Memory	8MB
SDRAM	32MB
Display	TFT color, VGA(640 x 480 dots), 262144 colors, Touch panel
Built-in communication function	Wireless LAN, Bluetooth
Contactless I/F	13.56MHz(supporting eTRON card) 2.45GHz(RFID tag, supporting Hitachi's mu-chip)
Card I/F	SD x 1, miniSD x 1, SIM(eTRON chip) x 1
Infrared I/F	Input x 1, Output x 1
Camera	CMOS camera 300K pixels CCD camera 2M pixels(OCR function for 2D bar-code)
Audio	Stereo speaker, microphone, headphone stereo
Dedicated ASIC	Accelerator for video & still image, Video capture, Cryptography processing
Size, Weight	151mm x 78mm x 22mm (excluding protrusions) / Approx. 245g



Wireless LAN

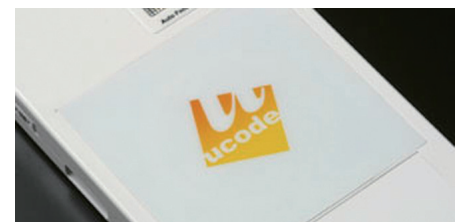


CCD camera

Cradle for UC Hardware Specifications

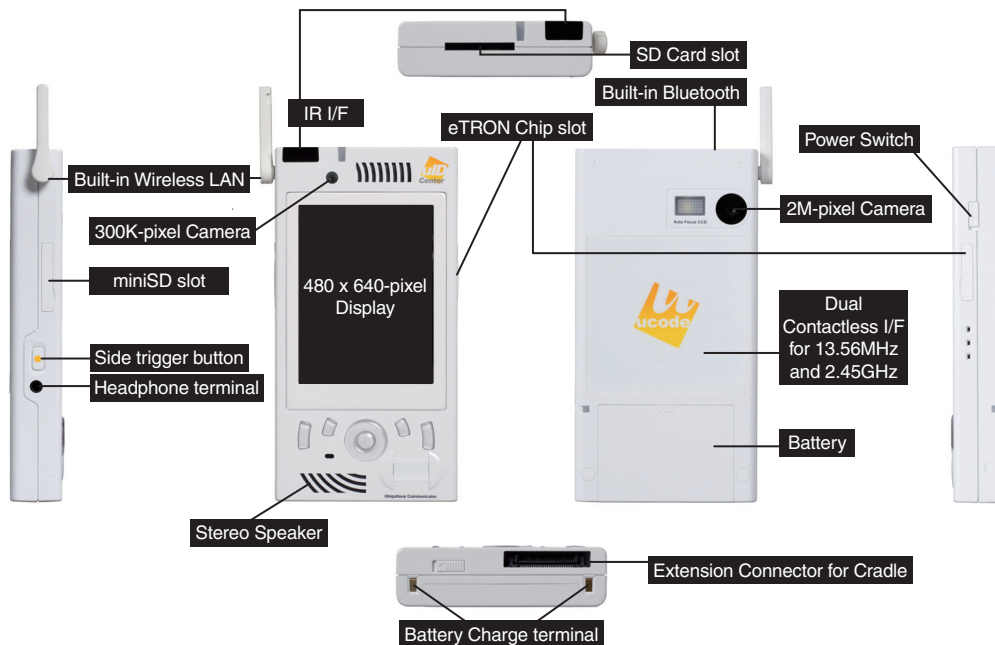


I/F	USB function x 1, USB host x 1, Serial x 1
Power supply	AC adaptor(5V 300mA)



RFID reader

Part Names of UC



UC Software Specifications

OS	PMC T-Kernel
Device Driver	PMC T-Drivers : Wireless LAN, RFID reader/writer, Audio device, eTRON Chip SIM device, Bar-code reader, USB function, Bluetooth
Software	- PMC T-Kernel Extension (Basic Middleware, providing File Management and Memory Management) - PMC T-Shell (GUI System) - T-Monitor/T-Kernel Implementation Specification - Basic Browser (Web browser for Internet surfing) - MicroScript (Visual Language) - Characters JIS Level-1, Level-2, Level-3, Level-4 and Supplementary Kanji set, Korean Kanji and Hangeul, Simplified Chinese and Traditional Chinese, 6-dot Braille and 8-dot Braille, i-mode pictogram, GT Fonts, A part of Unicode Ver.2.0 non-Kanji characters, etc...

PMC Ubiquitous Browser	Other Applications		
	MicroScript for UC	Multimedia Functions	Multi-Kanji Functions
PMC T-Shell(GUI Middleware) for UC			
PMC T-Kernel Extension (including File System)	Device Drivers for UC		TCP/IP
		RFID	eTRON
PMC T-Kernel			PMC T-Monitor
UC Hardware			

UC Development Kit

- UC Terminal
 - UC Terminal main unit
 - Cradle for UC
 - AC adaptor for Cradle
 - Serial cable
- UC Software Development Kit

This product includes the development environment for developing system software and applications on UC terminal. You can develop applications on the host PC utilizing the unique devices of UC terminal (RFID reader, camera, etc.) and middleware.

 - Target-side Software
 - System :
PMC T-Monitor, PMC T-Kernel, PMC T-Kernel Extension, PMC T-Shell, Application software, Device drivers
 - Font Data
 - Host-side Software
 - GNU Development Environment Package
Compiler : GNU C/C++ compiler(customized for T-Kernel)
Debugger : GDB(source code level debugger)
Library : ANSI C library, T-Kernel related libraries, etc.
 - Document : Specifications and manuals
- ucode tag (sold by the ten)
 - Sticker type 18 x 80mm
 - Hitachi's RFID tag "mu-chip" (certified by uID Center)

Assistive Service for Development

We provide a wide variety of assistive services for the system development using UC, such as software development, system build-up, technical support and consulting service.

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- TRON is an abbreviation of "The Real-time Operating System Nucleus".
 - eTRON is an abbreviation of "entity and economy TRON".
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