









UC-7420/UC-7410

RISC-based Ready-to-Run Embedded Computer with 8 Serial Ports, Dual LANs, USB, PCMCIA, CompactFlash



Features

- > Intel XScale IXP-422/425, 266/533 MHz processor
- > 128 MB RAM on-board, 32 MB flash disk
- > 8 RS-232/422/485 serial ports
- > Dual 10/100 Mbps Ethernet for network redundancy
- > USB 2.0 Host
- > CompactFlash socket for storage expansion
- > PCMCIA supports WLAN, GPRS, UMTS, HSDPA
- > LCM display and keypad for HMI
- > Ready-to-run Linux / WinCE 5.0 platform
- > DIN-rail or wall-mount installation
- > Robust, fanless design

Overview


UC-7420/UC-7410 products are RISC-based ready-to-run embedded computers for your embedded applications. The UC-7420/UC-7410 embedded computers feature eight RS-232/422/485 serial ports, a PCMCIA interface for wireless LAN communication, CompactFlash, and USB ports for mass storage disk expansion, making UC-7420/7410 ideal for your embedded applications.

The pre-installed Linux/WinCE OS provides an open, standard software operating system for your software program

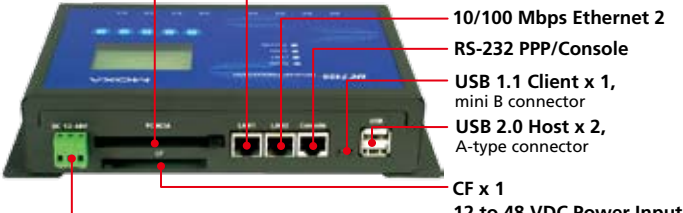
development. This means that software written for a desktop PC can be easily ported to the UC-7420/UC-7410 platform by using an open, common development tool, without needing to modify the software code. All the software you develop for your own applications can be stored on the UC-7420/UC-7410's Flash memory. Using the UC-7420/UC-7410, you can easily build a control system with a distributed architecture, based on embedded technologies.

UC-7420 Appearance

Front View
Graphics LCM
128 x 64 dots

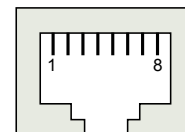


Back View
PCMCIA x 1

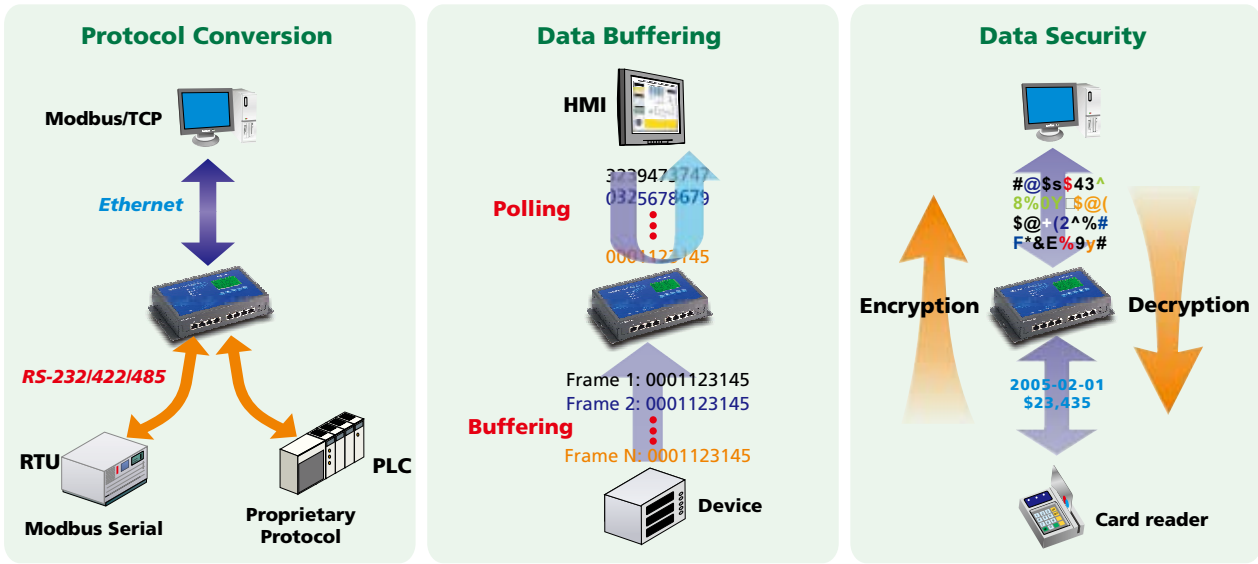


Pin Assignment

Serial Port, RJ45 Connector



PIN	RS-232	RS-422	RS-485
1	DSR	---	---
2	RTS	TxD+	---
3	GND	GND	GND
4	TxD	TxD-	---
5	RxD	RxD+	Data+
6	DCD	RxD-	Data-
7	CTS	---	---
8	DTR	---	---



Hardware Specifications

System

- CPU:** Intel XScale IXP-425 533 MHz (Plus Version)
Intel XScale IXP-422 266 MHz
- DRAM:** 128 MB onboard
- Flash:** 32 MB onboard
- PCMCIA:** Cardbus card and 16-bit PCMCIA 2.1/ JEIDA 4.2 card (UC-7420 only)
- Storage Expansion:** CompactFlash x 1 with full function (UC-7420 only)
- USB:** USB 2.0 Host x 2 (UC-7420 only), USB 1.1 Client x 1
- LCM:** 128 x 64 dot Graphics Mode
- Keypad:** 5 membrane buttons
- Console Port:** RS-232 x 1, RJ45, supports PPP
- Other:** RTC, buzzer, Watchdog Timer
- OS:** Built-in embedded Linux or Windows CE 5.0

Network Communication

- LAN:** 10/100 Mbps x 2, RJ45
- Protection:** Built-in 1.5 KV magnetic isolation protection

Serial Communication

- Serial Port:** RS-232/422/485 x 8, software-selectable, RJ45
- Protection:** Built-in 15 KV ESD protection for all signals
- Data bits:** 5, 6, 7, 8
- Stop bits:** 1, 1.5, 2
- Parity:** None, Even, Odd, Space, Mark
- Flow Control:** RTS/CTS, XON/XOFF, RS-485 ADDC™
- Speed:** 50 bps to 921.6 Kbps, supports Any Baudrate

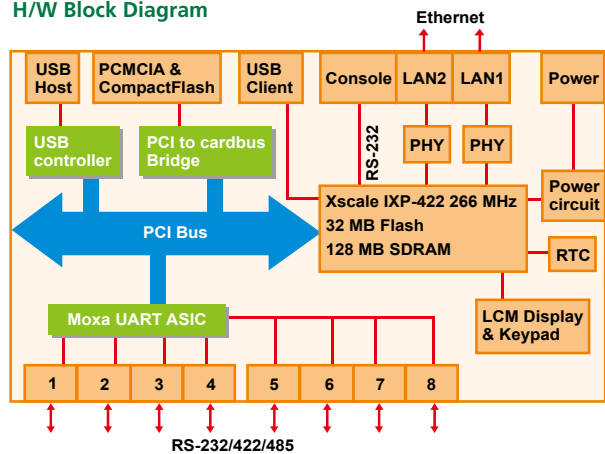
LEDs

- System:** Ready x 1, Console x 1
- LAN:** 10M/100M x 2
- Serial:** TxD/RxD x 8

Power Requirements

- Power Input:** 12 to 48 VDC
- Power Consumption:** 890 mA @ 12 VDC, 12W (UC-7420), 830 mA @ 12 VDC, 10W (UC-7410)

H/W Block Diagram



Mechanical

- Dimensions (WxDxH):** 197 x 125 x 44 mm (7.8 x 4.9 x 1.7 in)
- Weight:** 875 g (UC-7420), 810 g (UC-7410)
- Construction Material:** SECC sheet metal, 1 mm
- Mounting:** Wall-mounting, DIN-Rail

Environmental

- Operating Temperature:** -10 to 60°C (14 to 140°F), 5 to 95% RH
- Storage Temperature:** -20 to 80°C (-4 to 176°F), 5 to 95% RH
- Anti-Vibration:** 1G @ IEC-68-2-6, sine wave, 5-500 Hz, 1 Oct./min, 1 hr/axis.
- Anti-Shock:** 5G @ IEC-68-2-27, half sine wave, 30 ms

Regulatory Approvals

- EMC:** FCC Part 15, CISPR 22 Class A
CE Class A: EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024
- Safety:** TÜV: IEC/EN60950
UL/cUL: UL60950, CAN/CSA-C22.2 No. 60950-00
- Warranty:** 5 years

Software Specifications

Linux

Kernel Version: 2.6.10 (Plus Version)
2.4.18

Boot Loader: Redboot

Protocol Stacks: TCP, UDP, IPv4, SNMP V1/V3, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSH 1.0/ 2.0, SSL, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE

File System: JFFS2 (on-board flash)

System Utilities: bash, busybox, tinylogin, telnet, ftp, scp

Supporting Services and Daemons:

telnetd: Telnet Server daemon
ftpd: FTP server daemon
sshd: Secure shell server
Apache: Web server daemon, supports PHP and XML
MySQL: Database Server and Client
OpenVPN: Virtual private network service manager
iptables: Firewall service manager
pppd: dial in/out over serial port daemon & PPPoE
snmpd: snmpd agent daemon
inetd: TCP server manager program

Application Development Environment:

MOXA Linux API Library
Linux Tool Chain: Gcc, Glibc, GDB
Windows Tool Chain: Gcc, Glibc, Insight (Windows-based source level debug utility)
UC Finder: UC's LAN IP broadcast search utility for Windows and Linux

Device Drivers:

PCMCIA CardBus (supports 802.11b/g wireless LAN Card), CF Card, Watchdog Timer (WDT), UART, RTC, Buzzer, LCM, Keypad
MOXA 2G NPort Real TTY Driver

Windows CE 5.0

Boot Loader: Redboot

Protocol Stacks: TCP, UDP, IPv4, SNMP, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP

File Systems: TFAT (on-board flash)

System Utilities: Windows command shell, telnet, ftp, web-based administration manager

Supporting Services and Daemons

Telnet Server: Allows remote administration through a standard telnet client

FTP Server: Used for transferring files to and from remote computer systems via a network.

Web Server (httpd): WinCE IIS, offer ASP, ISAPI Secure Socket Layer support, SSL 2, SSL 3, and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions.

Dial-up Networking Service: RAS client API and PPP, support Extensible Authentication Protocol (EAP) and RAS scripting

Application Development Environment:

MOXA WinCE 5.0 SDK
C Libraries and Run-times
Component Services (COM and DCOM)
Microsoft Foundation Classes (MFC)
Microsoft® .NET Compact Framework
XML, including DOM, XQL, XPATH, XSLT, SAX2
SOAP Toolkit
Winsock 2.2

Device Drivers:

PCMCIA CardBus, CF Card, USB (supports USB flash disk), Watchdog Timer (WDT) API, UART, RTC, Buzzer, LCM, Keypad

Ordering Information

UC-7410-LX Plus **NEW**

RISC-based Ready-to-Run Embedded Computer with IXP-425, 8 Serial Ports, Dual LANs, Linux 2.6

UC-7410-LX

RISC-based Ready-to-Run Embedded Computer with IXP-422, 8 Serial Ports, Dual LANs, Linux 2.4

UC-7410-CE

RISC-based Ready-to-Run Embedded Computer with IXP-422, 8 Serial Ports, Dual LANs, WinCE 5.0

UC-7420-LX Plus **NEW**

RISC-based Ready-to-Run Embedded Computer with IXP-425, 8 Serial Ports, Dual LANs, USB, PCMCIA, CompactFlash, Linux 2.6

UC-7420-LX

RISC-based Ready-to-Run Embedded Computer with IXP-422, 8 Serial Ports, Dual LANs, USB, PCMCIA, CompactFlash, Linux 2.4

UC-7420-CE

RISC-based Ready-to-Run Embedded Computer with IXP-422, 8 Serial Ports, Dual LANs, USB, PCMCIA, CompactFlash, WinCE 5.0

All items include

- 1 UC-7420 or UC-7410
- Quick Installation Guide
- Wall-mounting Kit
- DIN-Rail Mounting Kit
- Document & Software CD
- Ethernet Cable: RJ45 to RJ45 cross-over cable, 100 cm
- Console Port Cable: CBL-RJ45F9-150 8-pin RJ45 to female DB9 cable, 150 cm
- Serial Port Cable: CBL-RJ45M9-150 8-pin RJ45 to male DB9 cable, 150 cm
- Universal Power Adaptor (includes terminal block to power jack converter)
- Product Warranty Statement