

Compact High-Performance ARM9 Core Module

Cost-effective and easy-to-use Digi JumpStart Kit® development solutions enable you to take advantage of the reliability and flexibility of the royalty-free ThreadX-based NET+OS® platform, the feature-complete high-level software components and applications of Microsoft® Windows® Embedded CE 6.0, or the readily available library of software and community support of the Linux® environment.

Design Services



Supported Software Platforms

The diagram illustrates the internal architecture of the ARM926J-S microcontroller, organized into several functional blocks:

- External Interfaces (Top):**
 - Serial EEPROM:** Connected to the **Serial Host** block.
 - 120-pin Connector:** Provides power and ground connections to the top of the device.
- Internal Core and Control (Center):**
 - ARM926J-S:** The main processor core, including 177, 155, or 103 MHz operation, 88Kb I-CACHE, and 48K D-CACHE.
 - Bus Arbiter:** Manages communication between the ARM core and the system bus.
 - System Bus:** An 88.5, 77.5, or 51.5 MHz AMB Bus, 32b-D, 32b-A.
 - JTAG Test and Debug:** Interface for testing and debugging the processor.
 - Real Time Clock:** Provides timekeeping functionality.
- Peripheral and Control Blocks (Left and Bottom):**
 - Serial Host:** Interface for external serial memory.
 - USB Device:** Interface for USB communication.
 - 1284:** A 10-bit ADC/DAC converter.
 - Serial Module x1:** For serial communication.
 - UART:** Universal Asynchronous Receiver/Transmitter.
 - SPI:** Serial Peripheral Interface.
 - HDLC:** High-Level Data Link Control.
 - ITC:** Instruction Trace Controller.
 - ICD Controller:** In-Circuit Debugger.
 - 8 x Timers/Counters or 4 PWM:** For timing and pulse-width modulation.
- Memory and Storage (Right):**
 - 10/100 Ethernet:** Network interface.
 - 32/64/128MB SDRAM:** System Dynamic Random Access Memory.
 - 32/64/128MB NAND Flash:** Non-volatile storage.
 - Memory Controller:** Manages access to SDRAM and NAND Flash.
 - Ext. Peripheral Controller:** Manages external peripherals.
- Power and Ground (Bottom):**
 - 1.8V GND:** Ground connection for the 1.8V supply.
 - 7V GND:** Ground connection for the 7V supply.
 - 120-pin Connector:** Provides power and ground connections to the bottom of the device.

- Powerful 32-bit Digi NS9360 processor (ARM9)
- Integrated 10/100 Ethernet networking
- On-chip LCD controller and USB host/device
- Commercial and industrial operating temperature
- FCC Class B low-emission module design
- Digi processor technology for true long-term product availability
- Complete NET+OS, Microsoft Windows Embedded CE 6.0 and Linux software platform support
- Seamless migration path to fully integrated Digi NET+ARM system-on-chip solution



Development Kits

Digi JumpStart Kits® Overview

Digi JumpStart Kit® for NET+OS®	Digi JumpStart Kit® for Microsoft Windows Embedded CE	Digi JumpStart Kit® for Embedded Linux
This royalty-free turnkey solution for embedded software development is based on the ThreadX Real-Time Operating System (RTOS), one of the most reliable and field-proven RTOS solutions available. In addition to ThreadX, NET+OS provides the integrated building blocks needed to create product solutions with leading network security using Digi embedded modules and microprocessors. For professional NET+OS software development, the Eclipse based Digi ESP™ Integrated Development Environment (IDE) with graphical user interface and high-speed USB 2.0 hardware debugger is provided out-of-the-box. - Royalty-free turnkey development solution - Built on field-proven and compact ThreadX RTOS - Fully integrated support for secure IPv4/IPv6 - Professional Digi ESP IDE (Microsoft Windows)	Microsoft Windows Embedded CE 6.0 is a highly componentized operating system, offering pre-tested technology components designed to create sophisticated embedded applications with minimized design effort and risk. It includes a wide range of ready-to-use components such as a graphical user interface, networking, web browser and multimedia. The professional Microsoft Visual Studio 2005 development tools also support native and managed code applications using various programming languages. The Digi JumpStart Kit for Microsoft Windows Embedded CE 6.0 provides a complete kit with all hardware and software components needed to start immediate software development on the ConnectCore 9P 9360 core module platforms. This includes support for key processor platform features such as power management modes. - Complete kit for Windows Embedded CE 6.0 development - Seamless integration into Microsoft Windows Embedded CE - Full Digi Board Support Package (BSP) source code 180-day Visual Studio and Windows Embedded CE 6.0 trial	Built around a standard Linux 2.6 kernel distribution, the Digi JumpStart Kit for Embedded Linux is tailored to the specific needs of embedded Linux development and provides an easy-to-use, complete off-the-shelf embedded development platform. It includes all components that are required to build secure network-enabled products based on the ConnectCore 9P 9360 family. The kit includes Digi ESP™ for Embedded Linux, a powerful and fully Linux-hosted Integrated Development Environment based on the open Eclipse™ framework. Ideal for new and experienced Linux developers, Digi ESP improves software design productivity by accelerating and greatly simplifying driver and application development through a user-friendly graphical interface. - Complete embedded Linux development platform - Royalty-free and with optimized 2.6 kernel and services - Linux-based Digi ESP IDE for rapid product development - Full Linux and Digi BSP source code included
		

Digi JumpStart Kit® Contents

Software Platform	NET+OS®	Microsoft Windows Embedded CE	Embedded Linux
Module	ConnectCore 9P 9360 module w/ 128 MB NAND Flash, 64 MB SDRAM		
Development Board	4 serial ports (1 x RS-232/422/485, 1 x RS-232, 2 x TTL), VGA interface, LCD/Touchscreen connector, User/Application connectors, I²C/SPI headers, Screw terminal for access to 8 GPIO signals, 2 user push-buttons, 2 user LEDs, 9-30VDC power supply, Power switch		
CD/DVD	Digi NET+OS CD: NET+OS 7, Digi ESP IDE, BSP source code, Sample code, Green Hills MULTI support option, User documentation	Digi Windows CE 6.0 CD: Microsoft Windows Embedded CE 6.0 BSP w/source code, Universal Boot Loader (U-Boot) source code, Sample code, Documentation Microsoft Embedded Windows CE 6.0 evaluation DVD: 180-day trial of Microsoft Embedded Windows CE 6.0, Platform Builder, Visual Studio 2005	Digi Embedded Linux 4 DVD: Digi Embedded Linux, Digi ESP IDE, Linux and platform specific source code, Universal boot loader source code (U-Boot), Sample code, Documentation
Documentation	Quick start guide, Digi ESP tutorial, NET+OS porting guide, NET+OS API documentation, Advanced Web Server, Hardware reference manual, Development board schematics	Quick start guide, Digi Windows CE 6.0 BSP user's guide, Hardware reference manual, Development board schematics	Quick start guide, Digi Embedded Linux user's guide, Hardware reference manual, Development board schematics
Power Supplies and Accessories	External wall power supply (110/240VAC to 12VDC @ 850 mA) with interchangeable outlet adapters (North America, EU, UK and Australia), Ethernet cable, Serial cable		
Other	Digi JTAG Link USB 2.0 hardware debugger	–	–
Ethernet Only	CC-9P-NET	CC-9P-CE6	CC-9P-LX

Please refer to the feature specs on our website for detailed information about the specific software platform capabilities.

ConnectCore™ 9P 9360

Hardware

Processor Type	32-bit Digi NS9360 high-performance RISC processor
ARM Core	ARM926EJ-S
Processor Speed	177 MHz
Cache	4k D-Cache/8k I-Cache
Memory Population	Up to 128 MB NAND flash
	Up to 128 MB SDRAM
Serial EEPROM	8 KB
UART	4 high-speed UARTs Maximum data rate 921.6 Kbps
GPIO	Up to 55 shared GPIO ports with 7 high-current (8 mA) pin options
SPI	Up to 4 SPI ports Master data rate up to 11.25 Mbps Slave data rate up to 5.5 Mbps
I ² C	Fast mode (400 kHz) and normal mode (100 kHz) support 7-bit and 10-bit address modes
USB	USB 2.0 Host/Device low/full speed interface with internal PHY (external PHY interface available) Parallel operation of host and device using combination of internal PHY and external PHY
External Memory Bus	28-bit address/32-bit data
LCD Controller	Up to SVGA (800x600) resolution Up to 18 bpp; 256K colors (TFT) 1, 2, 4 bpp palletized grayscale (STN) Up to 16 bpp 4:4:4 RGB, 3375 colors (Color Passive Matrix)
Timers/PWM	Up to 8 independent 16-/32-bit programmable timers/counters Up to 4 PWM functions
External IRQs	4
Real-Time Clock	• (no battery-backup)
JTAG	•
Pins/Form Factor	Small-footprint module with 2 x 120-pin board-to-board connectors
Dimensions (L x W x H)	2.362 in (60 mm) x 1.732 in (44 mm) x 0.0395 in (10.0 mm)
Network Interface - Wired	
Standard	IEEE 802.3
Physical Layer	10/100Base-T
Data Rate	10/100 Mbps (auto-sensing)
Mode	Full or half duplex (auto-sensing)
Environmental	
Operating Temperature	0° C to 70° C (32° F to 158° F) Industrial temperature version available. See website for information.
Storage Temperature	-50° C to 125° C (-58° F to 257° F)
Relative Humidity	5% to 90% (non-condensing)
Altitude	12,000 feet (3,658 meters)

• Module Feature

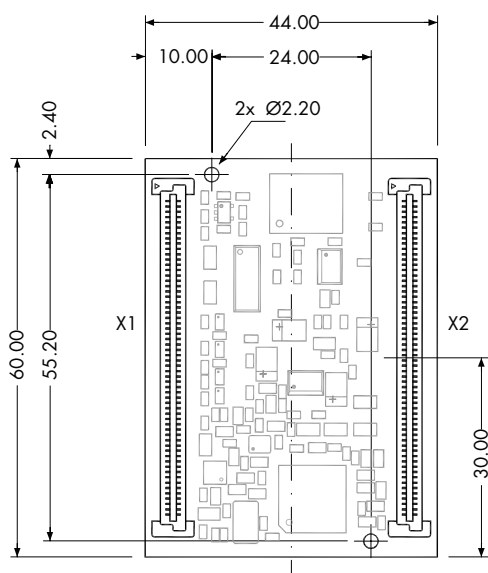
ConnectCore™ 9P 9360

Power Requirements (3.3V)

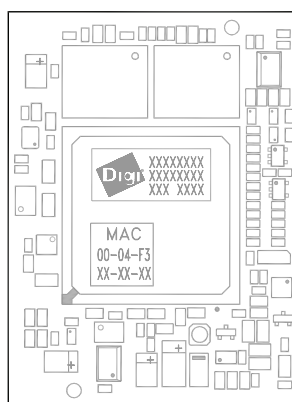
Maximum	400 mA
Regulatory Approvals	
FCC Part 15 Class B	•
EN55022:2006 Class B	•
ICES-003, Class B	•
VCCI, Class B	•
EN55024:1998 +A1:2001, A2:2003	•
EN61000-3-2:2006	•
EN61000-3-3:1995 +A1:2001, A2:2005	•
UL 60950-1, EN 60950 (EU)	•

• Module Feature

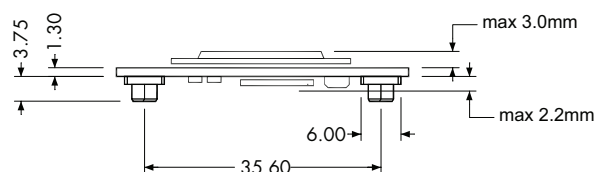
Bottom View



Top View



Side View



Visit www.digiembedded.com for part numbers.

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