



To emBEdded OR NOT TO emBEdded  
BEYOND LIMITATION OF EMBEDDED PC DESIGN

2009 Solution Guide

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ICOP Technology Inc.





# Lowest Power Consumption Most Powerful Performance

Energy Saving and  
Performance Enhancing can Coexist

## Vortex86DX : New Generation SoC Design

- x86 32bit Processor Core
- Built-in MTBF Flag Counter
- Built-in Fault tolerance – Redundancy
- Low power consumption fanless Design
- Intergraded 10/100M Ethernet
- Onboard 4MB/8MB SPI Flash Disk
- Support PCI/ ISA / SPI Bus
- 10 years life-cycle support
- Wide Operating Temp. -40~ +85°C
- DOS, Linux, Windows CE, and Windows XP support



### PDX-057T

5.7" Slim and Compact  
Design Panel PC

- 5.7" TFT LCD with Resistive Touch screen
- DM&P Vortex86DX 1GHz onboard with 256MB DDR2
- Compact Flash and Mini-PCI support
- Fanless and low power consumption



### VDX-6314

Embedded Vortex86DX  
Tiny CPU Module

- Vortex86DX CPU 800MHz
- 256MB DDR2 onboard
- Support 4S/4USB/VGA/LVDS/AUDIO  
/LAN/2GPIO/PWMx32



### VDX-6354

Embedded Vortex86DX PC/104  
CPU Module

- Vortex86DX CPU 800MHz
- 256MB DDR2 onboard
- Support 256MB/5S/2USB /LAN/GPIO/PWMx16



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## **μProcessor Module** ..... 23-40

μProcessor CPU Modules are designed as the kernel of customer own application, which integrates the DM&P SoC CPU, onboard DDR2, BIOS and multi I/O.

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## **Mity/Tiny CPU Module**..... 41-52

Tiny embedded CPU Modules offer the most compact embedded system for small application such as IP camera and Handheld PC.

3

## **PC/104 CPU Module** ..... 53-66

PC/104 CPU Modules provide wide range from 486 to Pentium level with minimum power requirement and wide operating temperature.

4

## **Half-Size CPU Module** ..... 67-70

Half-size SBC cards are designed to include industry-standard ISA gold fingers and PC/104 for easy expansion as industrial control system.

5

## **3.5" CPU Module** ..... 71-76

3.5" CPU Modules support 486 to Pentium level with fanless, low power consumption, and wide operating temperature.

6

## **Peripheral Module** .... 77-88

We provide more than 30 kind of peripheral modules to be suitable for customer's application.

7

## **Display Product Series** ..... 89-100

ICOP's display solution is designed for the present demanding embedded and productive applications. It can be more widely used when running with DOS, Linux, Windows CE, and Windows XP environment which makes it becomes the perfect solution for system integration.

8

## **Accessories & Technical Information** .... 101-109

We also provide some accessories to be convenience for customer's development with SBC boards.



## VISION

ICOP's vision is to be the most professional and advanced manufacture for Single Board Computer in the embedded filed. To achieve it, ICOP complies with the following principles:

- being a manufacture unceasingly improving on quality
- being a manufacture able to provide the lowest-cost product
- being a manufacture capable of offering the maximum-total-benefits

## CORE TECHNOLOGY

### ■ SoC (System-on-Chip)

SoC (System on Chip) is a major revolution taking place in the design of integrated circuits responding to the unprecedented levels of integration demand. It is a technology allowing CPU, South Bridge and North Bridge to be implemented into a single silicon chip and at the same time manifesting the truly embedded spirit by cutting development cycle and increasing product functionality, performance, and quality. ICOP, based on the trend and demand of market, adopts SoC as one of their core technologies and release Vortex86SX, Vortex86DX series SBC.

### ■ Neverfail Technology

Fault Tolerance is a necessity for critical applications. To achieve this, ICOP adopts neverfail technology. With just using one cable (BoR) and ISA Bus, Vortex86SX, Vortex86DX series can synchronize and duplicate data making redundancy structure to be completely done. A critical failure in the systems will not exist.

### ■ Various Expansion Buses and I/O

ICOP's Vortex86SX and Vortex86DX series, gear not only with ISA, PCI, and SPI but also with GPIO, USB, LAN, Serials, IDE, RTC, WatchDogs, I2C and LPC. ICOP significantly mitigates the complexity of PCB routing.

### ■ MTBF Counter

With MTBF (Mean Time Before Failure) counter technology, ICOP's Vortex86SX, Vortex86DX series are able to send out the aging alert signal when the mean time before failure are going to be reached. The one-time writable flash area presents the life span and failure rates of CPU boards.

## CORE VALUE

### ■ Concentrating on our Core Business: Professional SBC Manufacturing

ICOP focuses on its core business, which is dedicates to SBC foundry.

### ■ Zero Tolerance in Quality Improving

ICOP keeps striving in improving their manufacturing process, because we believe quality is the cornerstone to win customers' satisfactions.

### ■ Customer Coming First

ICOP will never forget that their success is based on their customers' success. We, hence, will endeavor to build an enduring relationship with our customers, who also will give their trust to us as part of their successes.

### ■ Caring for our Environment

ICOP believes that our environment is an invaluable asset. While committing our demands to our clients, we, at the same time, will constantly review our business in order to apply socially and environmentally acceptable practices in all areas, and further develop our environmental protection activities where possible.

## PRODUCT LIFE-CYCLE GUARANTEE

ICOP recognizes the importance concern of product Life-Cycle. The product Life-Cycle and its related longevity is a key factor in controlling the product quality and market development cost for electronic equipment suppliers. In addition to addressing the performance, the quality and the cost of the product, we offer the key ability to maintain 10+ years Life-Cycle of our CPU and product key components in extending new products development. ICOP products are designed with components that are proven reliable and offer extended availability. ICOP implements a solid composition of product roadmap, version control, End-of-Life (EOL), last buy announcements, product upgrade path for stability and continuation of electronic equipment suppliers' product design.





ICOP Technology, a member of DM&P Group, was started in 1989 as an industrial controller designer and manufacturer. Influenced by the explosive growth of the Industrial computer demand in early 1990, ICOP adopted x86 SoC (System-on-Chip) technology and built their reputation by offering solid embedded SBC (Single Board Computer) for the applications where small footprint, low power consumption, wide temperature, etc., are concerned.

With more than 20 years effort, now ICOP is a company with manufacturing facilities in China & Taiwan and with sales offices in major cities around the globe.

## EXTENDED TEMPERATURE SUPPORT

Recognizing the need for industrial products to operate in extended temperature range, ICOP includes design consideration for many of its products to operate in extended temperature range. For the Single-Board-Computer series product, the standard product design is targeted to operate in temperature range from -20°C to +70°C (Optional -40°C to +85°C). Within this temperature range, Vortex86SX and Vortex86DX can operate at its peak performance 300MHz and 800MHz respectively.

## SOFTWARE SUPPORT

The Windows Embedded family, including Windows CE, XP, Embedded Standard (aka XP Embedded), or Windows 7 provides the complete time-to-market advantage. On the other hand, Linux has emerged as great choice for embedded applications as well due to its flexibility for customized embedded systems.

Recognizing the advantage Windows Embedded family and Linux distributions might inspire, ICOP is committed to provide customers with the abundant supports in using Embedded Technologies. With more than 20 years of embedded hardware design/manufacturing experience, flexible business model, along with unmatched commitment to support Windows and Linux embedded technologies, ICOP is your best embedded hardware partner.

## ICOP'S COMMITMENT

To meet the harsh industrial standard, we guarantee that our SBC products are all based on the following advanced design concepts:



With strong know-how and experience in designing embedded boards, ICOP guarantees that all boards can operate between -20°C to +70°C. For some specific embedded boards, such as 6050M, they are able to operate from -40°C to +80°C.



With military-standard component DALLAS 1811, it is allowed to delay generating POWER GOOD signal the CPU, when the operating temperature is under 0°C. ICOP's embedded boards can cold boot from -20°C (optional -40°C).



The manufacture's default Quick Boot BIOS allows the system to be booted (Power-On-Self-Test) within 3 seconds. This hassle free design has made the 386 system more efficient than ever.



ICOP provides the lowest consumption solution in all serial embedded boards, which could be as low as +5V@240mA.



With the intelligence PCB layout design and the lowest power consumption components, ICOP provides customers with solutions of Fanless and Heatsink-free design.



ICOP provides a wide range of operating system supports including the MS-DOS, MS-Windows Family and various Linux distributions.



Recognizing the importance of our environment, ICOP will constantly apply socially and environmentally acceptable practices in all areas, and further develop our environmental protection activities where possible.



# Operating System Support



## Windows Embedded Compact (Windows Embedded CE 6.0)

### → Windows Embedded Compact (Windows Embedded CE 6.0)

Developers use Windows Embedded CE for a variety of smart, connected, and service-oriented devices, ranging from power-conscious GPS handhelds to real-time, mission-critical industrial controllers, including:

- ATMs
- Barcode and RFID Scanners
- Digital Picture Frames
- Digital Media Adapters
- Feature Phones
- Fuel Pumps
- Gaming Devices
- GPS
- Handheld Terminals
- Home/building Automation Gateways
- Industrial Controls
- Intelligent Appliances
- Mini-Kiosks
- Mobile Point of Service
- Monitoring Devices
- Networked Media Devices
- Media Servers
- Remote Metering
- Set-top Boxes
- Smart Media Controls
- Thin Clients
- Voice over Internet Protocol (VoIP) Phones
- Windows SideShow

With the Windows Embedded CE 6.0 R2 update, several new components help Windows Embedded CE 6.0 device makers efficiently build componentized, small footprint devices that connect to Windows Vista and Windows Server 2008. These new features include additions and upgrades to:

- Device Drivers
- Remote Desktop
- Internet Explorer
- VoIP
- Web Services on Devices (WSDAPI)
- WMP updates
- File system updates

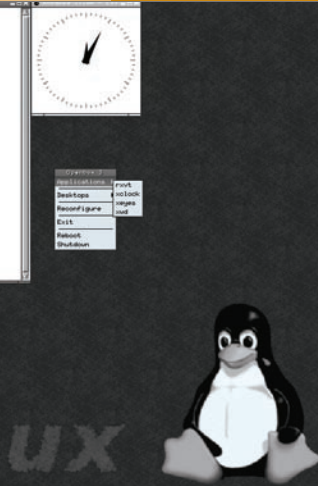
Visit <http://www.dmp.com.tw/tech/vortex86dx/#wince> to get Windows CE 5.0/6.0 BSP for Vortex86DX and evaluation images. For Vortex86SX, please visit <http://www.dmp.com.tw/tech/vortex86sx/#wince>.

### → Windows Embedded Standard 2009 (Windows XP Embedded)

Developers use Windows Embedded Standard for a variety of smart, connected, and service-oriented advanced commercial or consumer devices, to run thousands of existing Windows applications and drivers, ranging from Thin Clients to Multi-Function Printers, including:

- Advanced Set-top Boxes
- Fuel Pumps
- Full Featured Point of Service
- Gaming Devices
- Home Automation Gateways
- Industrial Controls
- Intelligent Appliances
- Multimedia Internet Devices
- Kiosks
- Media Servers
- Mobile Point of Service
- Monitoring Devices
- Multi-Function Printers
- Networked Media Devices and Servers
- Windows-based Terminals





### Windows XP Embedded Advantages

Windows XP Embedded offers the power of Windows with a flexible component selection, the opportunity to use familiar developing tools, and a cost-effective model of paying for what you actually ship.

- **Connectivity - 12,000 Components**

By using only the components you need, you can reduce development time, optimize operating system size, and lower hardware costs. Scale as low as 8MB in size with a bootable kernel.

- **Confidence - Componentized Version of Windows XP Professional**

Windows XP Embedded reduces time to market by taking advantage of a familiar programming model and a powerful set of tools. Leverage your knowledge of Visual Studio and develop with integrated technologies that include Internet Explorer, Windows Media Player and the .NET Framework to create applications and drivers for Windows XP Embedded devices quickly.

- **Community and Support**

An active development community and a network of industry leading Partners are available to help you every step of your development cycle. Working with a Windows Embedded Partner early on furthers your development savings. Windows XP Embedded is also cost-effective, with runtime license costs determined per unit shipped.

Visit <http://www.dmp.com.tw/tech/vortex86dx/#xpe> for Vortex86DX XPe drivers and evaluation images.

## → Linux

Linux is a generic term referring to Unix-like computer operating systems based on the Linux kernel. Their development is one of the most prominent examples of free and open source software collaboration; typically all the underlying source code can be used, freely modified, and redistributed by anyone under the terms of the GNU GPL and other free licenses.

Linux is predominantly known for its use in servers, although it is installed on a wide variety of computer hardware, ranging from embedded devices and mobile phones to supercomputers. Linux distributions, installed on both desktop and laptop computers, have become increasingly commonplace in recent years, owing largely to the popular Ubuntu distribution and to the emergence of netbooks.

DM&P provide X-Linux for Vortex86SX & Vortex86DX users. It is a tiny embedded Linux with text interface for developers. Less than 10 seconds is needed to boot and 32Mbytes disk storage is enough.

- Support Vortex86SX/DX series.
- Only needs 16-25M bytes storage space.
- Only need 10-15 seconds to boot on Vortex86SX/DX series from power on.
- Support Embeddisk.
- Support EXT3 filesystem.
- Working with read-only filesystem (using tmpfs to reduce writing Flash storage).
- Support serial console for device without VGA.
- Include FTP, TELNET and WWW server.
- Support DHCP.
- Support PPP dial-up and access PPP dial in.
- Support NFS.
- Support USB mass storage and keyboard/mouse.

For more detail about X-Linux, please visit <http://www.dmp.com.tw/tech/os-xlinux>. For graphic Linux solution, developers can try Puppy Linux (<http://www.puppylinux.org/>) or Debain Linux with graphic interface (<http://www.debian.org/>).



# Introduction of Embedded DM&P Vortex86DX SoC Technology



## Key Features of SoC

- 32bit x86 Processor Core up to 800MHz
- Embedded I/D Separated Cache
- SDRAM & DDR2 support
- Real Time Clock (Int. or Ext.)
- Support 2 IDE Channels with 4 Devices
- USB 2.0 Host support
- LoC (Lan on Chip)
- 4 sets COM Port
- GPIO (General Purpose Input Output)
- WDT (WatchDog Timer)
- Embedded Flash BIOS
- Redundancy Support
- MTBF Flag Counter
- JTAG Support
- Industrial Grade
- Power Consumption 1 watt
- Extended Temperature (-40 to +85 °C)
- RoHS Compliant

## Key Features of SBC

- 2MB SPI (Serial Peripheral Interface) Flash Disk Onboard
- Support PCI/ISA/SPI Bus
- Support Auto Direction
- Support Console Redirection
- 10 years Life-Cycle support
- Fanless Design

DM&P x86 Semiconductor is proud to provide the Vortex86DX x86 Microprocessor, which is based on MPU structure. It is the x86 SoC (System on Chip) with 90nm process and ultra low power consumption design (less than 1 watt). This comprehensive SoC has been integrated many features, such as various I/O (RS-232, Parallel, USB and GPIO), BIOS, WatchDog Timer, Power Management, MTBF counter, LoC (LAN on Chip), JTAG etc., into a BGA packing single chip.

The Vortex86DX is a high performance and fully static 32-bit X86 processor with the compatibility of Windows based, Linux and most popular 32-bit RTOS. It also integrates 32KB write through 4-way L1 cache, 4-way 256KB L2 cache, PCI rev. 2.1 32-bit bus interface at 33 MHz, DDR2, ROM controller, IPC (Internal Peripheral Controllers with DMA and interrupt timer/counter included), Fast Ethernet, FIFO UART, USB2.0 Host and IDE controller within a single 581-pin BGA package to form a system-on-a-chip (SOC). It provides an ideal solution for the embedded system and communications products (such as thin client, NAT router, home gateway, access point and tablet PC) to bring about desired performance.

## → Features

- **x86 32bit Processor Core**
  - 32bit x86 Processor core up to 800Mhz
  - 6 stage pipe-line
- **Floating point unit support**
- **Embedded I/D Separated L1 Cache**
  - 16K I-Cache, 16K D-Cache
- **Embedded L2 Cache**
  - 4-way 256KB L2 Cache
  - Write through or write back policy
- **DDR2 Control Interface**
  - 16 bits data bus
  - DDR2 clock support up to 333MHz
  - DDR2 size support up to 1Gbytes
- **IDE Controller**
  - Support 2 channels Ultra-DMA 100 (Disk x 4)
  - Primary channel support SD card
- **LPC (Low Pin Count) Bus Interface**
  - Support 2 programmable registers to decode LPC address
- **MAC Controller x 1**
- **PCI Control Interface**
  - Up to 3 sets PCI master device
  - 3.3V I/O
- **ISA Bus Interface**
  - AT clock programmable
  - 8/16 Bit ISA device with Zero-Wait-State
  - Generate refresh signals to ISA interface during DRAM refresh cycle
- **DMA Controller**
- **Interrupt Controller**
- **Counter/Timers**
  - 2 sets of 8254 timer controller
  - Timer output is 5V tolerance I/O on 2nd Timer
  - MTBF Counter
- **Real Time Clock (Internal Mode or External Mode)**
  - Less than 2uA (3.0V) power consumption in Internal RTC Mode while chip is power-off
- **FIFO UART Port x 5 (5 sets COM Port)**
  - Compatible with 16C550/16C552
  - Default internal pull-up
  - Supports the programmable baud rate generator with the data rate from 50 to 460.8K bps
  - The character options are programmable for 1 start bits; 1, 1.5 or 2 stop bits; even, odd or no parity; 5~8 data bits
  - Support TXD\_En Signal on COM1/COM2
  - Port 80h output data could be sent to COM1 by software programming
- **Parallel Port**
  - Support SPP/EPP/ECP mode
- **General Chip Selector**
  - 2 sets extended Chip Selector

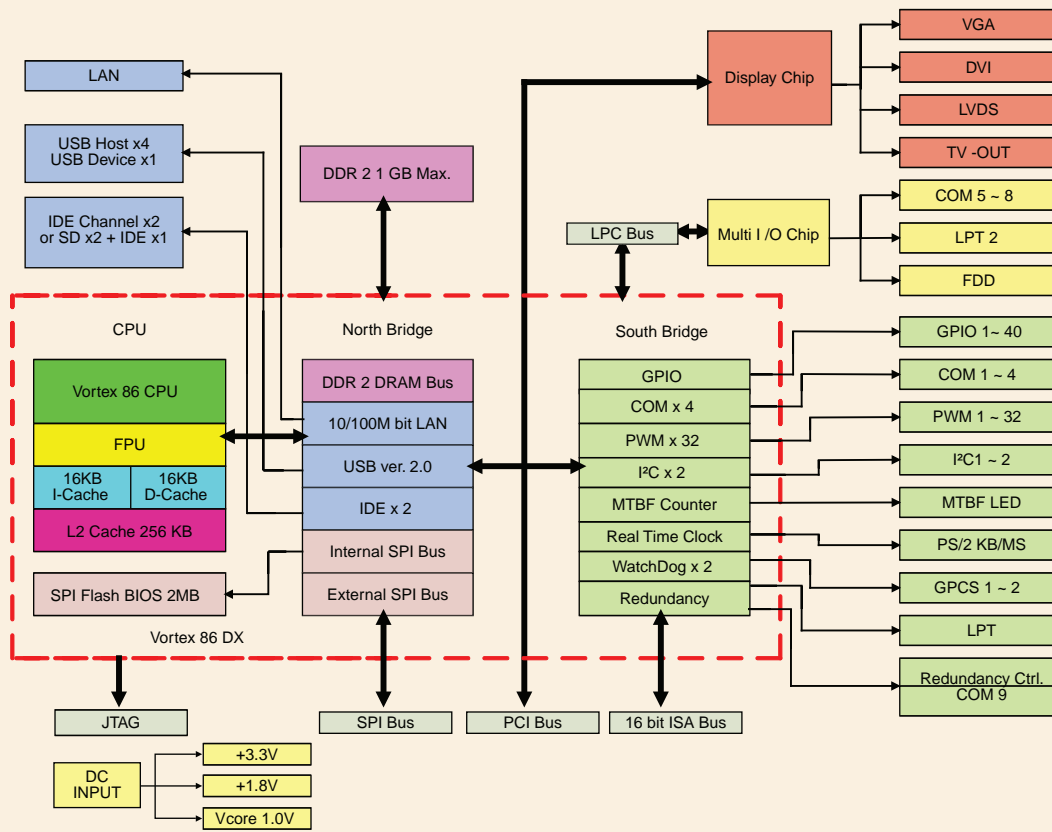


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- I/O-map or Memory-map could be configurable
- I/O Addressing: From 2 byte to 64K byte
- Memory Address: From 512 byte to 4G Byte
- **General Programmable I/O**
  - Supports 40 dedicated programmable I/O pins
  - Each GPIO pin can be individually configured to be an input/output pin
  - GPIO\_P0~GPIO\_P3 can be program by 8051
  - GPIO\_P0 and GPIO\_P1 with interrupt support (input/output)
- **USB 2.0 Host Support**
  - Supports HS, FS and LS
  - 4 ports
- **USB 1.1 Device Support**
  - 1 port
  - Supports FS with 3 programmable endpoint
- **PS/2 Keyboard and Mouse Interface Support**
  - Compatible with 8042 controller
- **Redundant System Support**
  - Speaker out
- **Embedded 2MB Flash**
  - For BIOS storage
  - The Flash could be disable & use external Flash ROM
- **I2C bus x 2**

- Compliant w/t V2.1
- Some master code (general call, START and CBUS) not support
- **Servo Control interface support**
- **General Shift interface support**
- **JTAG Interface supported for S.W. debugging**
- **Input clock**
  - 14.318MHz
  - 32.768KHz
- **Output clock**
  - 24 MHz
  - 25 MHz
  - PCI clock
  - ISA clock
  - DDRII clock
- **Operating Voltage Range**
  - Core voltage: 0.9 V ~ 1.1V
  - I/O voltage: 1.8V @ 5%, 3.3 V @ 10 %
- **Operating temperature**
  - -40 ~ 85 degree C
- **Package Type**
  - 27 x 27, 581 ball BGA

**Vortex86DX SoC Block Diagram**



→ To emBEdDED OR NOT TO emBEdDED



# Introduction of Embedded DM&P Vortex86SX SoC Technology



## Key Features of SoC

- 32bit x86 Processor Core up to 300MHz
- Embedded I/D Separated Cache
- SDRAM & DDR2 support
- Real Time Clock (Int. or Ext.)
- Support 2 IDE Channels with 4 Devices
- USB 2.0 Host support
- LoC (Lan on Chip)
- 4 sets COM Port
- GPIO (General Purpose Input Output)
- WDT (WatchDog Timer)
- Embedded Flash BIOS
- Redundancy Support
- MTBF Flag Counter
- JTAG Support
- Industrial Grade
- Power Consumption 1 watt
- Extended Temperature (-40 to +85 °C)
- RoHS Compliant

## Key Features of SBC

- 2MB SPI (Serial Peripheral Interface) Flash Disk Onboard
- Support PCI/ISA/SPI Bus
- Support Auto Direction
- Support Console Redirection
- 10 years Life-Cycle support
- Fanless Design

DM&P x86 Semiconductor is proud to provide the Vortex86SX 32bit x86 Processor, which is based on MPU structure. It is the x86 SoC (System on Chip) with 0.13 micron process and ultra low power consumption design (less than 1 watt). This comprehensive SoC has been integrated many features, such as various I/O (RS-232, Parallel, USB and GPIO), BIOS, WatchDog Timer, Power Management, MTBF counter, LoC (LAN on Chip), JTAG etc., into a BGA packing single chip.

The Vortex86SX is a high performance CPU, which is compatible with DOS and Linux. It integrates 32KB write through direct map L1 cache, PCI Rev. 2.1 32-bit bus interface at 33 MHz, SDRAM, DDR2, ROM controller, IPC (Internal Peripheral Controllers with DMA and interrupt timer/counter included), Fast Ethernet MAC, FIFO UART, USB2.0 Host and IDE controller into a System-on-Chip (SoC) design.

Furthermore, this outstanding Vortex86SX SoC not only meets the requirements of embedded applications, such as Electronics Billboard, Firewall Router, Industrial Single-Board-Computers, Receipt Printer Controller, Thin Client PC, Auto Vehicle Locator, Fingerprint Identification, Web Camera, Thin Server, RS232-to-TCP Transmitter but also meets the critical temperature demand, spanning from -40 to+85 °C

## → Features

- **Processor Core**
  - 32bit x86 Processor core up to 300Mhz
  - 6 stage pipe-line
- **Embedded I/D Separated L1 Cache**
  - 16K I-Cache, 16K D-Cache
- **DRAM Controller**
  - SDRAM support
  - DDR2 support
  - Support PLL for clock phase auto-adjust
- **IDE Controller**
  - Support 2 Channels (4 Devices)
  - UltraDMA-100/66/33 support
  - PIO Mode 0-4 support
- **PCI Host Bridge Controller**
  - 32 Bit 33MHz rev. 2.1 compliant
  - Support up to 3 external PCI masters
  - 3.3V and 5V tolerance I/O
- **FULL ISA Bus**
  - Full set of ISA bus signals
  - AT clock programmable
  - Complete IRQ set
  - 8/16 Bit ISA device with Zero-Wait-State
    - Generate refresh signals to ISA interface during DRAM refresh cycle
- **LPC (Low Pin Count) Bus Interface**
  - LPC revision 1.0 compliant
  - Support 2 programmable registers to decode LPC address
- **LoC (Lan on Chip)**
  - Intergraded 10/100M Ethernet (MAC + PHY)
- **FIFO UART Port x 5 (5 sets COM Port)**
  - Compatible with 16C550/16C552
  - Default internal pull-up
  - Supports the programmable baud rate generator with the data rate from 50 to 460.8K bps
  - The character options are programmable for 1 start bits; 1, 1.5 or 2 stop bits; even, odd or no parity; 5~8 data bits
  - Support TXD\_En Signal on COM1/COM2
  - Port 80h output data could be sent to COM1 by software programming
- **DMA Controller**
  - Provides two 8237 DMA compatible controllers which are cascaded internally
  - 4 channels for 8-bit DMA transfer and 3 channels for 16-bit transfer
  - Supports 8/16/32-bit channel 4 bus master on the LPC bus

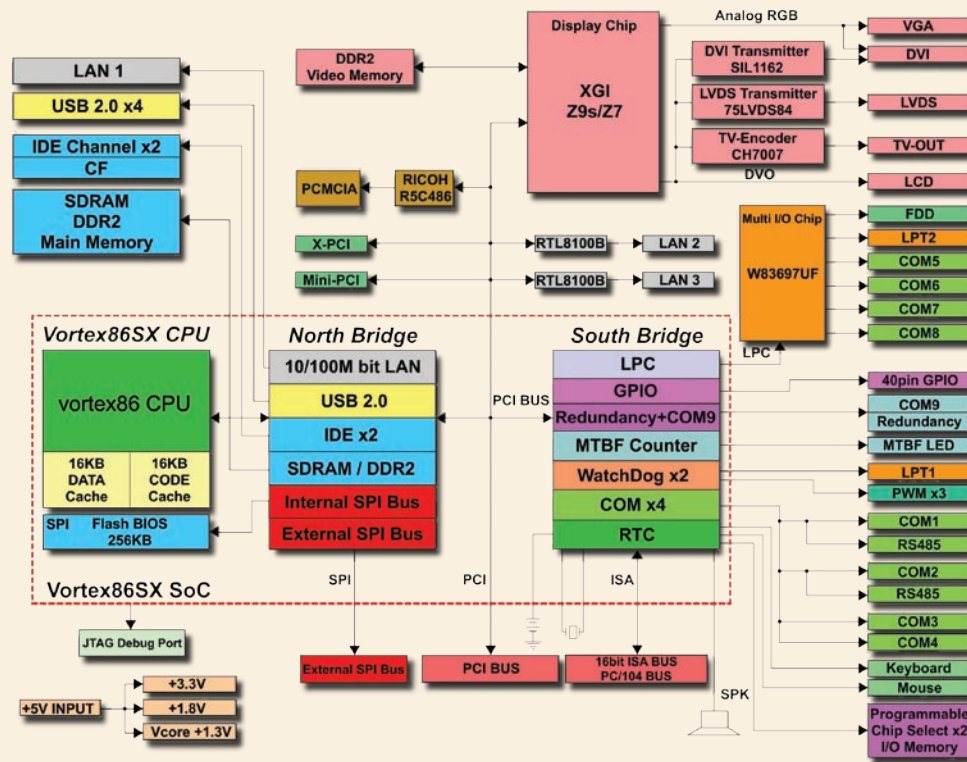


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- **Interrupt Controller**
  - Provides two 8259 compatible interrupt controllers which are cascaded internally
  - Independent programmable level/edge-triggered interrupt channels
  - Serial IRQ supported
- **Counter/Timers**
  - 2 sets of 8254 timer controller
  - Timer output is 5V tolerance I/O on 2nd Timer
  - Support WatchDog Timer (WDT)
- **Real Time Clock (Internal Mode or External Mode)**
  - Below 2uA power consumption on Internal Mode (Estimation Value)
- **General Chip Selector**
  - 2 sets extended Chip Selector
  - I/O-map and Memory-map are configurable
  - I/O Addressing: From 2 byte to 64 KB
  - Memory Address: From 512 byte to 4 GB
- **General Programmable I/O**
  - Supports 40 dedicated programmable I/O pins
  - Each GPIO pin can be individually configured to be an input/output pin
- **USB 2.0 Host Support**
  - Supports HS, FS and LS
  - 4 ports

- **PS/2 Keyboard and Mouse Interface Support**
  - Compatible with 8042 controller
- **Embedded 256KB Flash**
  - For BIOS storage
  - The Flash could be disable & use external Flash ROM
- **Speaker out**
- **MTBF Flag Counter**
- **JTAG Interface supported for S.W. debugging**
- **Input clock**
  - 14.318MHz
  - 32.768KHz
- **Output clock**
  - 24 MHz
  - 25 MHz
- **Operating Voltage Range**
  - Core voltage: 1.2 V ~ 1.4V
  - I/O voltage: 1.8V ± 5% , 3.3 V ± 10 %
- **Operating temperature**
  - -40 ~ +85 °C
- **Package Type**
  - 27 x 27mm, 581 ball BGA

**Vortex86SX SoC Block Diagram**



→ To emBEdDED OR NOT TO emBEdDED



# ODM & OEM Design Service



## Custom Engineering Design and Manufacturing Service



**ICOP** Technology Inc. offers custom engineering design and manufacturing service for x86 embedded technology. Having years of accumulative experiences, ICOP exhibits the expertise to design electronic equipment and to produce x86 Embedded solutions that maximize performance at a minimal cost. With the ownership of the DMP Vortex86SX and Vortex86DX SoC, ICOP have the advantage in the consolidation of design and manufacturing services for various OEM/ODM demands. Our business model provides the best environment to meet target project cost and desired schedule. ICOP's x86 core technology offers the best environment to control and maintain Product-Life-Cycle.

### → A Full Service Engineering and Manufacturing Company



ICOP is a full-service engineering developer for custom product. With the dedication of a strong Research & Development and customer service teams, ICOP achieves the customer satisfaction with solid engineering and manufacturing service. Aside from being an embedded SBC manufacturer, ICOP is also devoted to the development of processor kernel design.

### → Software Support Based on Hardware Application



Being a CPU designer, ICOP knows how to integrate an embedded application that other SBC manufacturers cannot deliver. With x86 CPU know-how, ICOP combines the advantage of CPU kernel modification with the necessary software support. Most of all, to overcome the dimension limitation for most embedded systems, ICOP has a team of engineers devoted to the work of CMOS and BIOS programming, and they are willing to share those experience with our customers.



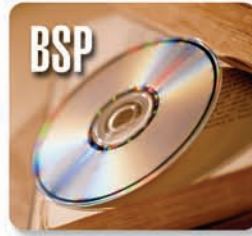
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→ **Multi-Operation Systems Support**



ICOP's embedded systems have been tested under Windows Embedded CE, Windows Embedded Standard, Embedded Linux, and DOS. Our hardware is made to be compatible with these operation systems. We also have the OS driver database to support customer's OS inquiry.

→ **Free Driver and Free Download**



ICOP provides Driver package for our CPU module. We also supply x86 main design circuit and accompanying drivers in the website. Please feel free to examine the system design with the use of our developing tool.



ICOP assists the customers in their projects by cutting down time consumption and by dropping their expenses. ICOP offers the customers with prototype samples in 5 weeks after the confirmation of the final specification. And it takes less than 4 weeks to put the prototype sample into mass production once we receive customer's approval.

→ **Complete Support**



We accept custom design for production, EMI/Safety test, mechanical encasing, power supply, and cables for chassis with full testing, inspection and packing.

→ **Ultimate Services**

If you hope to work with the manufacturer who can provide you all basic engineering services, ICOP is the one that you choose to work with. We offer the following Engineering Services:

- PCB layout and circuit design
- Off-the-shelf products depopulation or redesign
- Prototype samples manufacturing
- Making cables for LCD/CRT to connect to ICOP controllers
- BIOS modification
- Drivers and Operation Systems support

For more understanding of our ODM development examples, please check our ODM SHOWCASE at our

URL: [http://www.icop.com.tw/oem\\_toc.asp](http://www.icop.com.tw/oem_toc.asp)

For complimentary engineering consulting, please contact ICOP Technology Inc.



# LCD Display Support



## ICOP offers LCD display solutions for different applications



### → ICOP Offers

ICOP offers LCD display solution for our x86 Embedded CPU modules. In many applications, the needs to monitor and to collect data are necessary; in other explicit occasions, special purpose transactions are also in due process for viewing. With DM&P Vortex86SX and Vortex86DX series, TFT and LVDS Flat Panels can be fully supported.

### → LCD Kits

In order to provide the well-suited LCD solution for customers, ICOP provides 5.7", 6.4", 8.4", 10.4", 12.1" and 15.1" panel respectively for the LVDS and TFT LCD kits of Vortex86SX and Vortex86DX series. LCD display panel covers the resolutions 640 x 480, 800 x 600 and 1024 x 768. The complete LCD Kit includes LCD panel, LCD signal cable, backlight inverter and LVDS converter. Our LCD Kit also comes with resistive touch screen from 5.7", 6.4", 8.4", 10.4", 12.1" to 15.1". The touch screen controller interface selection can be PS/2, RS-232, or USB connection.

### → Custom Service

Custom service for lighting a custom LCD Display Panel other than of our existing list is attended according to the necessary pre-confirmation and agreement. ICOP reserves the rights to waive and to discontinue the agreement under the conditions that are without the complete data sheet, a sample of LCD display panel, the corresponding cable/cabling with protruding wires. We suggest that you select our off-the-shelf LCD display solution for quick customization service.



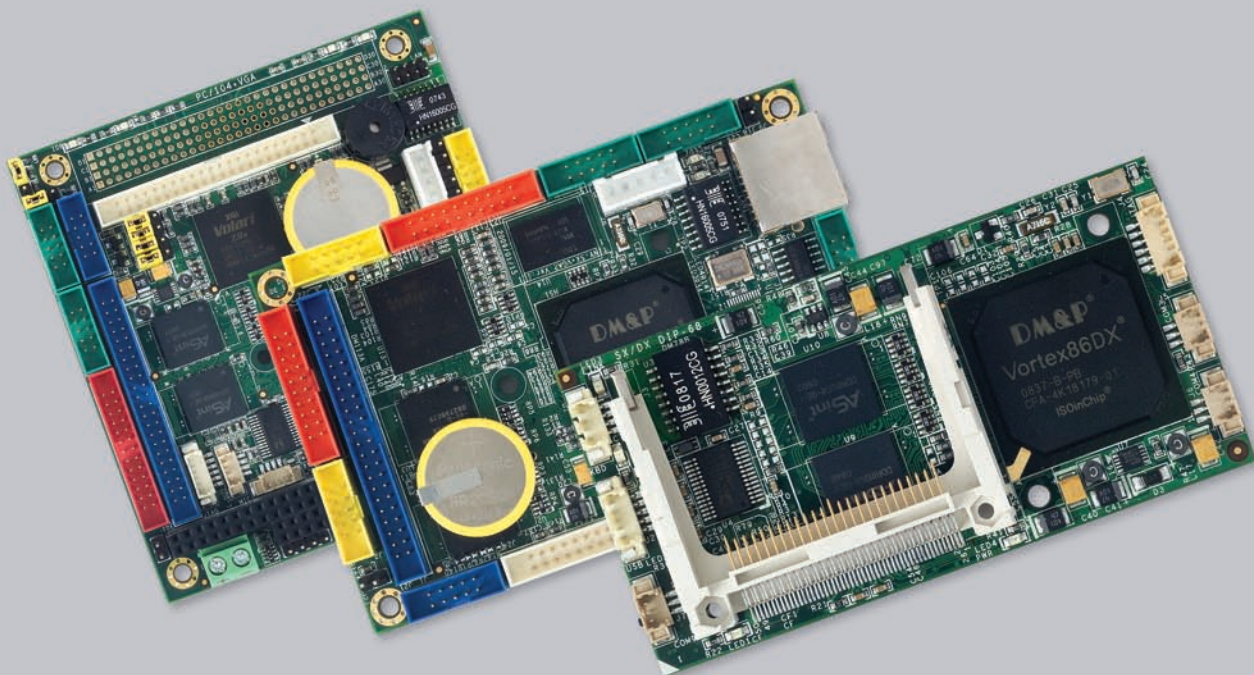
### → Thin Frame Panel PC

The design concept of ICOP Open Frame fixture is made with simple, clear and universal attribution for quick installation with your intended desired mounting space. This frame includes standard pattern of hole for mounting purpose with the embedded SBC and LCD display panel. There is also the consideration for unique power adaptors.

### → Configuration and Integration

There is no standard design for OFPC, due to many different embedded SBC board other than to specify inputs and outputs. Our preference is a mother-daughter board design concept, and some features can be made available through PC-CARD devices. Most cases, the embedded CPU module accommodates the following inputs and outputs: Serial ports, Keyboard & Mouse, Wireless/Wired Ethernet, Audio Line In/Out and USB. The main purpose of OFPC is to incorporate the LCD display panel, touchscreen, inverter and embedded CPU card. Consideration of standard I/O connectors, it makes easier to integrate a working computer in one piece of hard metal for various applications particularly.

# Selection Guide



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# µ Processor CPU Module Selection Guide



Specification		Model Name	VDX-6300	VSX-6100-V2	VSX-6101-V2	VDX-DIP-ISA	VDX-DIP-PCI
System Information	Form Factor		DIP-68PIN	DIP-68PIN	DIP-48PIN	DIP-204PIN	DIP-204PIN
	CPU Frequency		800MHz	300MHz	300MHz	800MHz	800MHz
	CPU Vendor		DM&P	DM&P	DM&P	DM&P	DM&P
	System Chipset		Vortex86DX	Vortex86SX	Vortex86SX	Vortex86DX	Vortex86DX
	System Memory		256MB DDR2	128MB DDR2	128MB DDR2	256MB DDR2	256MB DDR2
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s
I/O	VGA	VGA	N/A	N/A	N/A	N/A	N/A
		LCD	N/A	N/A	N/A	N/A	N/A
	IDE		N/A	N/A	N/A	1	1
	Serial	RS-232	3	3	3	5	5
		RS-232/485	N/A	N/A	N/A	N/A	N/A
	Parallel		N/A	N/A	N/A	N/A	N/A
	USB (Ver. 2.0)		2	2	2	4	4
	Ethernet port		1 x 10/100 Mbps	1 x 10/100 Mbps	1 x 10/100 Mbps	1 x 10/100 Mbps	1 x 10/100 Mbps
	Flash Disk Support	CF	Yes	Yes	Yes	N/A	N/A
		2MB SPI	4MB	Yes	Yes	4MB	4MB
	Expansion Bus		N/A	N/A	N/A	ISA	PCI
GPIO		2 x 16-bit GPIO	2 x 16-bit GPIO	1 x 16-bit GPIO	2 x 16-bit GPIO	2 x 16-bit GPIO	
Others	Power Consumption		+5V @ 380mA	+5V @ 340mA	+5V @ 360mA	+5V @ 380mA	+5V @ 380mA
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)
	Dimensions (mm)		90 x 46mm	90 x 46mm	64 x 46mm	70 x 45mm	70 x 45mm



Specification		Model Name	VSX-DIP-ISA-V2	VSX-DIP-PCI-V2	VDX-6319-F-D	VSX-6119-F-D-V2
System Information	Form Factor		DIP-204PIN	DIP-204PIN	Mity-SoC	Mity-SoC
	CPU Frequency		300MHz	300MHz	800MHz	300MHz
	CPU Vendor		DM&P	DM&P	DM&P	DM&P
	System Chipset		Vortex86SX	Vortex86SX	Vortex86DX	Vortex86SX
	System Memory		128MB DDR2	128MB DDR2	256MB DDR2	128MB DDR2
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s
I/O	VGA	VGA	N/A	N/A	N/A	N/A
		LCD	N/A	N/A	N/A	N/A
	IDE		1	1	N/A	N/A
	Serial	RS-232	5	5	TTL x 2	TTL x 2
		RS-232/485	N/A	N/A	N/A	N/A
	Parallel		N/A	N/A	1	1
	USB (Ver. 2.0)		4	4	1	1
	Ethernet port		1 x 10/100 Mbps	1 x 10/100 Mbps	N/A	N/A
	Flash Disk Support	EmbedDisk	N/A	N/A	128MB onboard	128MB onboard
		2MB SPI	Yes	Yes	Yes	Yes
	Expansion Bus		ISA	PCI	N/A	N/A
GPIO		2 x 16-bit GPIO	2 x 16-bit GPIO	16-bit GPIO	16-bit GPIO	
Others	Power Consumption		+5V @ 340mA	+5V @ 340mA	+5V @ 370mA	+5V @ 330mA
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)
	Dimensions (mm)		70 x 45mm	70 x 45mm	65 x 45mm	65 x 45mm



# Tiny CPU Module Selection Guide



Specification		Model Name	VDX-6314	VDX-6315	VDX-6316	VDX-6317-X	VDX-6318
System Information	Form Factor		Tiny	Tiny	Tiny	Mity-Mite	Tiny
	CPU Frequency		800MHz	800MHz	800MHz	800MHz	800MHz
	CPU Vendor		DM&P	DM&P	DM&P	DM&P	DM&P
	System Chipset		Vortex86DX	Vortex86DX	Vortex86DX	Vortex86DX	Vortex86DX
	System Memory		256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s
I/O	VGA	VGA	Yes	N/A	N/A	N/A	Yes
		LCD	N/A	N/A	N/A	N/A	Yes
		LVDS	Yes	N/A	N/A	N/A	N/A
	IDE		1	1	1	1	1
	Serial	RS-232	3	3	1	1	3
		RS-232/422/485	1	1	1	N/A	1
	Parallel		N/A	1	1	N/A	N/A
	USB (Ver. 2.0)		2	2	2	1	4
	Ethernet port		1 x 10/100 Mbps	1 x 10/100 Mbps	N/A	1 x 10/100 Mbps	1 x 10/100 Mbps
	Flash Disk Support	EmbedDisk	Yes	Yes	Yes	Yes	Yes
		4MB SPI	Yes	Yes	Yes	Yes	Yes
	Expansion Bus		16-bit x-ISA	16-bit x-ISA	16-bit x-ISA	16-bit x-ISA	N/A
	GPIO		16-bit GPIO	2 x 16-bit GPIO	2 x 16-bit GPIO	1 x 16-bit GPIO	2 x 16-bit GPIO
Others	Power Consumption		+5V @ 700mA	+5V @ 480mA	+5V @ 400mA	+5V @ 320mA	+5V @ 700mA
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)
	Dimensions (mm)		100 x 66mm	100 x 66mm	100 x 66mm	80 x 50mm	100 x 66mm



Specification		Model Name	VSX-6114-V2	VSX-6115-V2	VSX-6116-V2	VSX-6117-X-V2	VSX-6118-V2
System Information	Form Factor		Tiny	Tiny	Tiny	Mity-Mite	Tiny
	CPU Frequency		300MHz	300MHz	300MHz	300MHz	300MHz
	CPU Vendor		DM&P	DM&P	DM&P	DM&P	DM&P
	System Chipset		Vortex86SX	Vortex86SX	Vortex86SX	Vortex86SX	Vortex86SX
	System Memory		128MB DDR2	128MB DDR2	128MB DDR2	128MB DDR2	128MB DDR2
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s
I/O	VGA	VGA	Yes	N/A	N/A	N/A	Yes
		LCD	N/A	N/A	N/A	N/A	Yes
		LVDS	Yes	N/A	N/A	N/A	N/A
	IDE		1	1	1	1	1
	Serial	RS-232	3	3	1	1	3
		RS-232/422/485	1	1	1	N/A	1
	Parallel		N/A	1	1	N/A	N/A
	USB (Ver. 2.0)		2	2	2	1	4
	Ethernet port		1 x 10/100 Mbps	1 x 10/100 Mbps	N/A	1 x 10/100 Mbps	1 x 10/100 Mbps
	Flash Disk Support	EmbedDisk	Yes	Yes	Yes	Yes	Yes
		2MB SPI	Yes	Yes	Yes	Yes	Yes
	Expansion Bus		16-bit x-ISA	16-bit x-ISA	16-bit x-ISA	16-bit x-ISA	N/A
	GPIO		16-bit GPIO	2 x 16-bit GPIO	2 x 16-bit GPIO	1 x 16-bit GPIO	2 x 16-bit GPIO
Others	Power Consumption		+5V @ 620mA	+5V @ 400mA	+5V @ 320mA	+5V @ 280mA	+5V @ 620mA
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)
	Dimensions (mm)		100 x 66mm	100 x 66mm	100 x 66mm	80 x 50mm	100 x 66mm



# PC/104 CPU Module Selection Guide



Specification		Model Name	VDX-6357	VDX-6356	VDX-6356-L4	VDX-6354	VDX-6350E	
System Information	Form Factor		PC/104	PC/104	PC/104	PC/104 (+)	PC/104 (+)	
	CPU Frequency		800MHz	800MHz	800MHz	800MHz	800MHz	
	CPU Vendor		DM&P	DM&P	DM&P	DM&P	DM&P	
	System Chipset		Vortex86DX	Vortex86DX	Vortex86DX	Vortex86DX	Vortex86DX	
	System Memory		256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	
I/O	VGA	VGA	Yes	N/A	N/A	Yes	N/A	
		LCD	Yes	N/A	N/A	Yes	N/A	
	Audio		N/A	N/A	N/A	Yes	N/A	
	FDD		N/A	N/A	N/A	N/A	N/A	
	IDE		1	1	1	1	1	
	Serial	RS-232		3	3	1	3	3
		RS-232/485		N/A	N/A	N/A	N/A	1
		RS-232/422/485		1	1	1	1	N/A
	Parallel		1	1	1	1	1	
	USB (Ver. 2.0)		2	2	2	2	2	
	Ethernet port		3 x 10/100 Mbps	3 x 10/100 Mbps	4 x 10/100 Mbps	1 x 10/100 Mbps	1 x 10/100 Mbps	
	Flash Disk Support	EmbedDisk		Yes	Yes	Yes	Yes	Yes
		4MB SPI		Yes	Yes	Yes	Yes	Yes
	Expansion Bus		PC/104	PC/104	PC/104	PC/104 (+)	PC/104 (+)	
	GPIO		16-bit GPIO	16-bit GPIO	16-bit GPIO	16-bit GPIO	16-bit GPIO	
Others	Power Consumption		+5V @ 800mA	+5V @ 620mA	+5V @ 800mA	+5V @ 740mA	+5V @ 520mA	
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	
	Dimensions (mm)		90 x 96mm	90 x 96mm	90 x 96mm	90 x 96mm	90 x 96mm	



Specification		Model Name	VDX-6351	VDX-6372	VSX-6157	VSX-6156-V2	VSX-6155-V2	
System Information	Form Factor		PC/104	PC/104 (+)	PC/104	PC/104	PC/104 (+)	
	CPU Frequency		800MHz	600MHz	300MHz	300MHz	300MHz	
	CPU Vendor		DM&P	DM&P	DM&P	DM&P	DM&P	
	System Chipset		Vortex86DX	Vortex86DX	Vortex86SX	Vortex86SX	Vortex86SX	
	System Memory		256MB DDR2	128MB DDR2	128MB DDR2	128MB DDR2	128MB DDR2	
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	
I/O	VGA	VGA	Yes	Yes	Yes	N/A	Yes	
		LCD	Yes	Yes	Yes	N/A	Yes	
	Audio		N/A	N/A	N/A	N/A	Yes	
	FDD		Yes	N/A	N/A	N/A	N/A	
	IDE		1	1	1	1	1	
	Serial	RS-232		3	1	3	3	3
		RS-232/485		N/A	N/A	N/A	N/A	N/A
		RS-232/422/485		1	1	1	1	1
	Parallel		1	1	1	1	1	
	USB (Ver. 2.0)		2	2	2	2	2	
	Ethernet port		1 x 10/100 Mbps	N/A	3 x 10/100 Mbps	3 x 10/100 Mbps	1 x 10/100 Mbps	
	Flash Disk Support	EmbedDisk		Yes	Yes	Yes	Yes	Yes
		2MB SPI		4MB	N/A	Yes	Yes	Yes
	Expansion Bus		PC/104	PC/104 (+)	PC/104	PC/104	PC/104 (+)	
GPIO		16-bit GPIO	16-bit GPIO	16-bit GPIO	16-bit GPIO	16-bit GPIO		
Others	Power Consumption		+5V @ 720mA	+5V @ 600mA	+5V @ 680mA	+5V @ 490mA	+5V @ 740mA	
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	
	Dimensions (mm)		90 x 96mm	90 x 96mm	90 x 96mm	90 x 96mm	90 x 96mm	

# PC/104 CPU Module Selection Guide



Specification		Model Name	VSX-6154-V2	VSX-6150E-V2	VSX-6150-V2	
System Information	Form Factor		PC/104 (+)	PC/104 (+)	PC/104 (+)	
	CPU Frequency		300MHz	300MHz	300MHz	
	CPU Vendor		DM&P	DM&P	DM&P	
	System Chipset		Vortex86SX	Vortex86SX	Vortex86SX	
	System Memory		128MB DDR2	128MB DDR2	128MB DDR2	
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	
	Watchdog Timer 0 & 1 Sets		30.5 $\mu$ s to 512s	30.5 $\mu$ s to 512s	30.5 $\mu$ s to 512s	
I/O	VGA	VGA	Yes	N/A	N/A	
		LCD	Yes	N/A	N/A	
	Audio		N/A	N/A	N/A	
	FDD		N/A	N/A	N/A	
	IDE		1	1	1	
	Serial	RS-232		3	3	1
		RS-232/485		N/A	1	1
		RS-232/422/485		1	N/A	N/A
	Parallel		1	1	1	
	USB (Ver. 2.0)		2	2	2	
	Ethernet port		1 x 10/100 Mbps	1 x 10/100 Mbps	N/A	
	Flash Disk Support	EmbedDisk		Yes	Yes	Yes
		2MB SPI		Yes	Yes	Yes
	Expansion Bus		PC/104 (+)	PC/104 (+)	PC/104 (+)	
GPIO		16-bit GPIO	16-bit GPIO	16-bit GPIO		
Others	Power Consumption		+5V @ 720mA	+5V @ 400mA	+5V @ 320mA	
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	
	Dimensions (mm)		90 x 96mm	90 x 96mm	90 x 96mm	



# Half-Size CPU Module Selection Guide



Specification		Model Name	VDX-6324	VSX-6124-V2	VSX-6121-V2	
System Information	Form Factor		Half-Size	Half-Size	Half-Size	
	CPU Frequency		800MHz	300MHz	300MHz	
	CPU Vendor		DM&P	DM&P	DM&P	
	System Chipset		Vortex86DX	Vortex86SX	Vortex86SX	
	System Memory		256MB DDR2	128MB DDR2	128MB DDR2	
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	
I/O	VGA	VGA	Yes	Yes	N/A	
		LCD	Yes	Yes	N/A	
		LVDS	N/A	N/A	N/A	
	Audio		Opt.	N/A	N/A	
	IDE		1	1	1	
	Serial	RS-232		3	3	1
		RS-232/485		N/A	N/A	1
		RS-232/422/485		1	1	N/A
	Parallel		1	1	1	
	USB (Ver. 2.0)		4	4	4	
	Ethernet port		1 x 10/100 Mbps	1 x 10/100 Mbps	N/A	
	Flash Disk Support	EmbedDisk		Yes	Yes	Yes
		2MB SPI		4MB	Yes	Yes
		CF		Yes	Opt.	Opt.
	Expansion Bus		PC/104(+)	PC/104 (+)	PC/104 (+)	
Mini PCI		N/A	N/A	N/A		
GPIO		16-bit GPIO	16-bit GPIO	16-bit GPIO		
Others	Power Consumption		+5V @ 740mA	+5V @ 700mA	+5V @ 360mA	
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	
	Dimensions (mm)		184 x 122mm	184 x 122mm	184 x 122mm	

# 3.5" CPU Module Selection Guide



Specification		Model Name	VDX-6329	VDX-6328	VDX-6327	VDX-6326	VSX-6127-V2
System Information	Form Factor		3.5"	3.5"	3.5"	3.5"	3.5"
	CPU Frequency		800MHz	800MHz	800MHz	800MHz	300MHz
	CPU Vendor		DM&P	DM&P	DM&P	DM&P	DM&P
	System Chipset		Vortex86DX	Vortex86DX	Vortex86DX	Vortex86DX	Vortex86SX
	System Memory		256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	128MB DDR2
	BIOS		AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS	AMI BIOS
	Watchdog Timer 0 & 1 Sets		30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s	30.5µs to 512s
I/O	VGA	VGA	Yes	Yes	Yes	Yes	Yes
		LCD	Yes	Yes	Yes	Yes	Yes
		LVDS	N/A	Yes	Yes	Yes	Yes
	Audio		Yes	Yes	N/A	Yes	N/A
	IDE		1	1	1	1	1
	Serial	RS-232	5	5	7	3	7
		RS-232/485	N/A	N/A	N/A	N/A	N/A
		RS-232/422/485	1	1	1	1	1
	Parallel		1	1	1	1	1
	USB (Ver. 2.0)		2	3	3	3	3
	Ethernet port		2 x 10/100 Mbps	1 x 10/100 Mbps	1 x 10/100 Mbps	3 x 10/100 Mbps	1 x 10/100 Mbps
	Flash Disk Support	EmbedDisk	Yes	Yes	Yes	Yes	Yes
		4MB SPI	Yes	Yes	Yes	Yes	2MB
		CF	Yes	Yes	Yes	Yes	Yes
	Expansion Bus		X-PCI	PC/104(+)	PC/104 (+)	Opt.	PC/104 (+)
	Mini PCI		N/A	N/A	Yes	Yes	Yes
GPIO		N/A	16-bit GPIO	1 x 16-bit GPIO	16-bit GPIO	1 x 16-bit GPIO	
Others	Power Consumption		+5V @ 820mA	+5V @ 760mA	+5V @ 820mA	+5V @ 800mA	+5V @ 760mA
	Operating Temperature		-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)	-20°C ~ +70°C (-40°C ~ +85°C)
	Dimensions (mm)		102 x 144mm	102 x 144mm	102 x 144mm	102 x 144mm	102 x 144mm

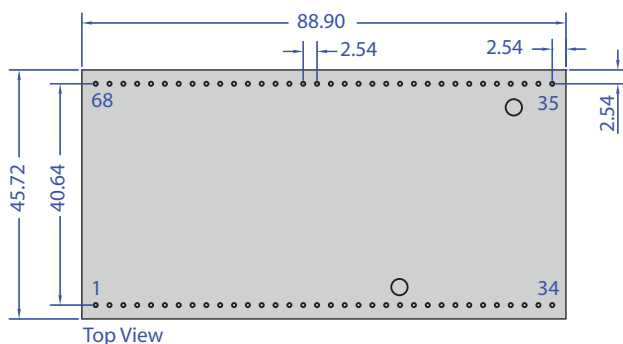
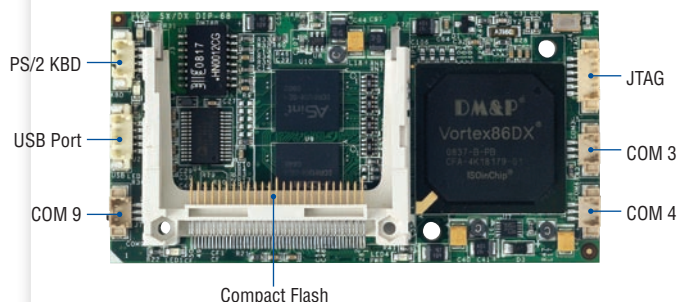
are designed as the kernel of customer own application, which integrates the DM&P SoC CPU, onboard DDR2, BIOS and multi I/O.

# Processor Module



VDX-6300	Vortex86DX DIP 68pin CPU Module 256MB/3S/USB/LAN/CF .....	24
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VSX-6101-V2	Vortex86SX DIP 48pin CPU Module 128MB/3S/USB/LAN/CF .....	26
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Unit: mm

### Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Compact Flash Type I/II Onboard 4MB SPI Flash Disk
<b>PWM</b>	24 Channels
<b>I/O Interface</b>	RS-232 port x3 (TX /RX only) USB port (Ver2.0) x2 10/100Mbps Ethernet port x1
<b>Connectors</b>	1.25mm 3-pin wafer for RS-232 x3 1.25mm 5-pin wafer for USB x1 1.25mm 4-pin wafer for Keyboard x1 1.25mm 6-pin wafer for JTAG x1 Type I/II Compact Flash slot x1
<b>Power Requirement</b>	Single Voltage +5V @ 380mA
<b>Weight</b>	28g
<b>Board Size</b>	90 x 46mm (3.54 x 1.81 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

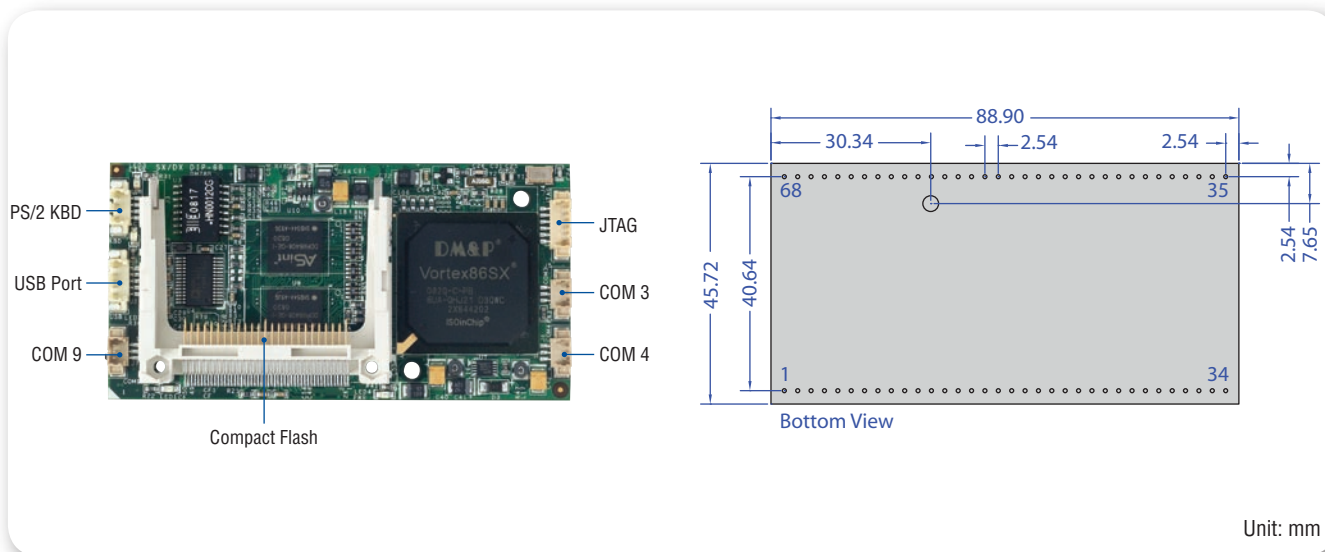
- VDX-6300 x1

### Ordering Information

- **VDX-6300** Vortex86DX DIP 68pin CPU Module with 256MB DDR2
- **VSX-6100-EVB** Vortex86SX DIP 48/68pin CPU Module Development Board

### 2.0mm 68-Pin Signal Assignment for VDX-6300

PIN#	Signal Name	PIN#	Signal Name
1	GND	35	GND
2	Reset	36	TXDEN2
3	GP00 /PWM0	37	CTS2\
4	GP01 /PWM1	38	DSR2\
5	GP02 /PWM2	39	DTR2\
6	GP03 /PWM3	40	RXD2\
7	GP04 /PWM4	41	RI2\
8	GP05 /PWM5	42	RTS2\
9	GP06 /PWM6	43	TXD2\
10	GP07 /PWM7	44	DCD2\
11	SPICS / GP30	45	GND
12	SPICLIK / GP31	46	GP23 /PWM19
13	SPIDO / GP32	47	GP24 /PWM20
14	SPIDI / GP33	48	GP25 /PWM21
15	GP34	49	GP26 /PWM22
16	GP35	50	GP27 /PWM23
17	GP36	51	CTS1\
18	GP37	52	DSR1\
19	SPEAKER	53	DTR1\
20	GP20 /PWM16	54	RXD1\
21	GP21 /PWM17	55	RI1\
22	GP22 /PWM18	56	RTS1\
23	VBATT	57	TXD1\
24	VCC	58	DCD1\
25	GP10 /PWM8	59	GND
26	GP11 /PWM9	60	LUSBD2-
27	GP12 /PWM10	61	LUSBD2+
28	GP13 /PWM11	62	LUSBD3-
29	GP14 /PWM12	63	LUSBD3+
30	GP15 /PWM13	64	LAN-RX-
31	GP16 /PWM14	65	LAN-RX+
32	GP17 /PWM15	66	LAN-TX-
33	SYSCLK	67	LAN-TX+
34	IRQ6	68	VCC



Unit: mm

### Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5µ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Compact Flash Type I/II Onboard 2MB SPI Flash Disk
<b>I/O Interface</b>	RS-232 port x3 USB port (Ver2.0) x2 10/100Mbps Ethernet port x1
<b>Connectors</b>	1.25mm 3-pin wafer for RS-232 x3 1.25mm 5-pin wafer for USB x1 1.25mm 4-pin wafer for Keyboard x1 1.25mm 6-pin wafer for JTAG x1 Type I/II Compact Flash slot x1
<b>Power Requirement</b>	Single Voltage +5V @ 340mA
<b>Weight</b>	28g
<b>Board Size</b>	90 x 46mm (3.54 x 1.81 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

- VSX-6100-V2 x1

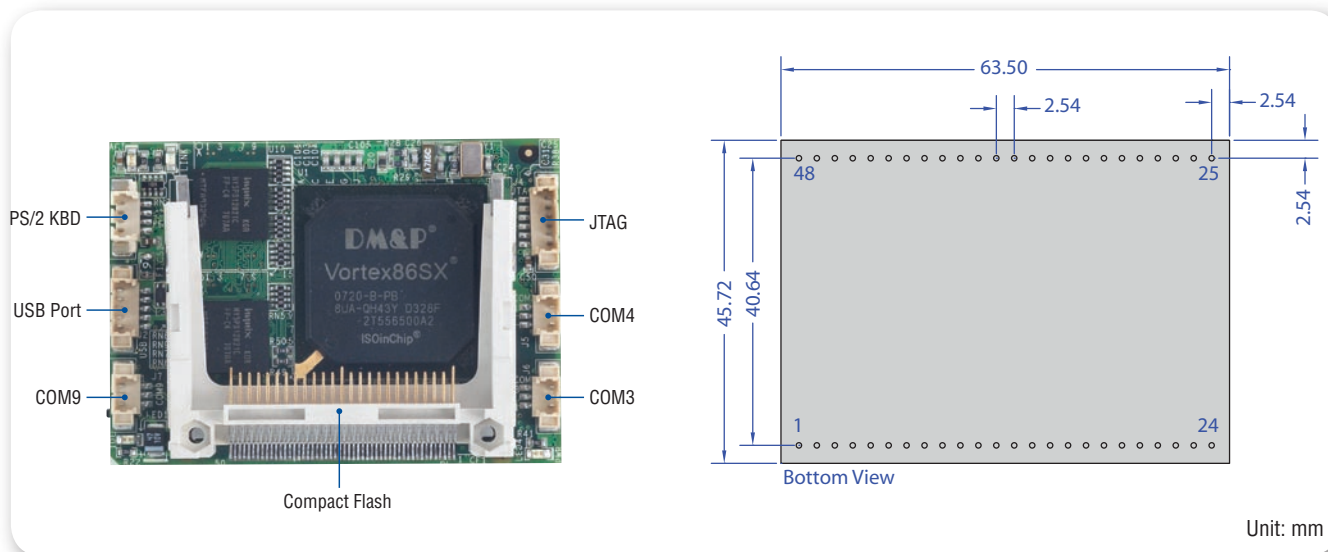
### Ordering information

- VSX-6100-V2** Vortex86SX DIP 68pin CPU Module with 128MB DDR2
- VSX-6100-EVB** Vortex86SX DIP 48/68pin CPU Module Development Board

### 2.0mm 68-Pin Signal Assignment for VSX-6100-V2

PIN#	Signal Name	PIN#	Signal Name
1	GND	35	GND
2	PWRGND	36	TXDEN2
3	GP00	37	CTS2\
4	GP01	38	DSR2\
5	GP02	39	DTR2\
6	GP03	40	RXD2\
7	GP04	41	RI2\
8	GP05	42	RTS2\
9	GP06	43	TXD2\
10	GP07	44	DCD2\
11	SPICS	45	GND
12	SPICLK	46	GP23
13	SPIDO	47	GP24
14	SPIDI	48	GP25
15	GP34	49	GP26
16	GP35	50	GP27
17	GP36	51	CTS1\
18	GP37	52	DSR1\
19	SPEAKER	53	DTR1\
20	GP20	54	RXD1\
21	GP21	55	RI1\
22	GP22	56	RTS1\
23	VBATT	57	TXD1\
24	VCC	58	DCD1\
25	GP10	59	GND
26	GP11	60	LUSBDO-
27	GP12	61	LUSBDO+
28	GP13	62	LUSBD1-
29	GP14	63	LUSBD1+
30	GP15	64	LAN-RX-
31	GP16	65	LAN-RX+
32	GP17	66	LAN-TX-
33	SYSCLK	67	LAN-TX+
34	IRQ6	68	VCC

- 1 µProcessor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Compact Flash Type I/II Onboard 2MB SPI Flash Disk
<b>I/O Interface</b>	RS-232 port x3 USB port (Ver2.0) x2 10/100Mbps Ethernet port x1
<b>Connectors</b>	1.25mm 3-pin wafer for RS-232 x3 1.25mm 5-pin wafer for USB x1 1.25mm 4-pin wafer for Keyboard x1 1.25mm 6-pin wafer for JTAG x1 Type I/II Compact Flash slot x1
<b>Power Requirement</b>	Single Voltage +5V @ 360mA
<b>Weight</b>	24g
<b>Board Size</b>	64 x 46mm (2.52 x 1.81 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-6101-V2 x1

## Ordering information

- VSX-6101-V2** Vortex86SX DIP 48pin CPU Module with 128MB DDR2
- VSX-6100-EVB** Vortex86SX DIP 48/68pin CPU Module Development Board

## 2.0mm 48-Pin Signal Assignment for VSX-6101-V2

PIN#	Signal Name	PIN#	Signal Name
1	GND	25	GND
2	PWRGND	26	GP23
3	GP00	27	GP24
4	GP01	28	GP25
5	GP02	29	GP26
6	GP03	30	GP27
7	GP04	31	CTS1\
8	GP05	32	DSR1\
9	GP06	33	DTR1\
10	GP07	34	RXD1\
11	SPICS	35	RI1\
12	SPICLIK	36	RTS1\
13	SPIDO	37	TXD1\
14	SPIDI	38	DCD1\
15	GP34	39	GND
16	GP35	40	LUSBD0-
17	GP36	41	LUSBD0+
18	GP37	42	LUSBD1-
19	SPEAKER	43	LUSBD1+
20	GP20	44	LAN-RX-
21	GP21	45	LAN-RX+
22	GP22	46	LAN-TX-
23	VBATT	47	LAN-TX+
24	VCC	48	VCC



1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

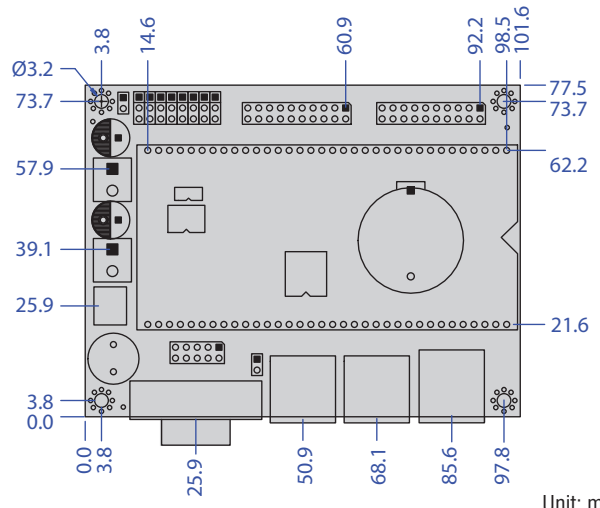
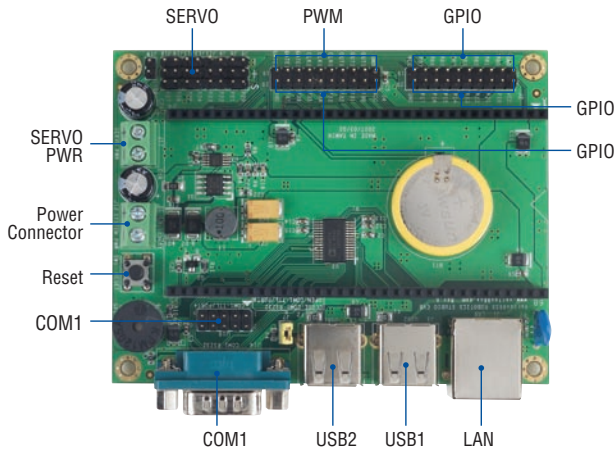
Peripheral Module

7

Display Product Series

8

Accessories & Technical Information



### Specifications

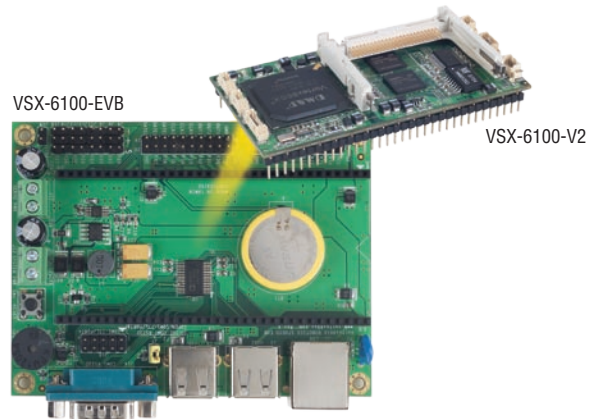
<b>Connectors</b>	2.0mm 10-pin header for RS-232 x1 2.54mm 10-pin header for GPIO x3 2.54mm 10-pin header for PWM x1 2.54mm 3-pin header for SERVO x8 External RJ-45 connector for Ethernet x1 External USB connector x2 External 9-pin D-Sub male connector for RS-232 x1
<b>Power Requirement</b>	Single Voltage +5V @ 250mA
<b>Weight</b>	70g
<b>Board Size</b>	101 x 78 mm (3.97 x 3.07 inches)
<b>Operating Temperature</b>	-40°C ~ +85°C

### Packing List

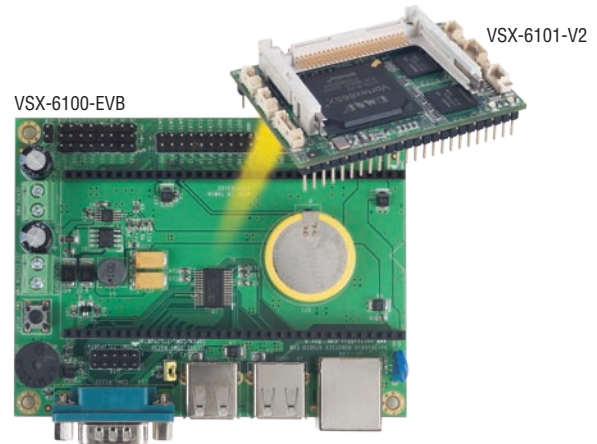
- VSX-6100-EVB x1
- CD for User's Manual & Driver x1

### Ordering information

- **VSX-6100-EVB** Vortex86SX DIP 48/68pin CPU Module Development Board

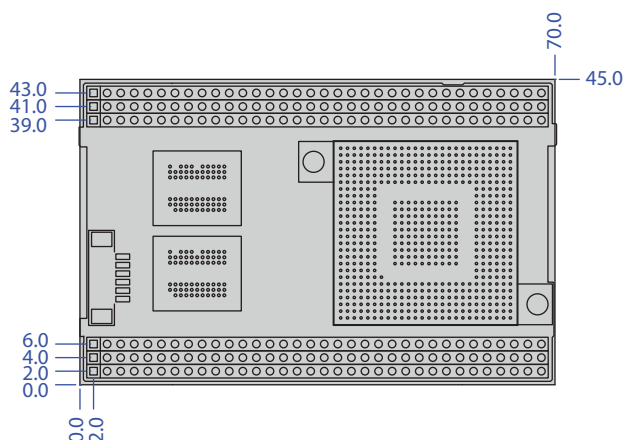


VSX-6100-V2 Development Kit



VSX-6101-V2 Development Kit

# VDX-DIP-ISA



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x5 USB port x4 16-bit GPIO port x2
<b>Connectors</b>	1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 380mA
<b>Weight</b>	23g
<b>Board Size</b>	70 x 45mm (2.75 x 1.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-DIP-ISA x1

## Ordering Information

- **VDX-DIP-ISA** Vortex86DX DIP-204pin-ISA CPU Module with 256MB DDR2

## DIP-204pin-ISA Module

DIP-204pin-ISA module, measured at only 70 x 45mm, is designed particularly as the kernel for the diverse expandable applications. Through 6 rows of 34pin connector, DIP-204pin-ISA module is able to provide multiple functions, such as PCI BUS, RS-232, IDE, LAN, USB and GPIO.

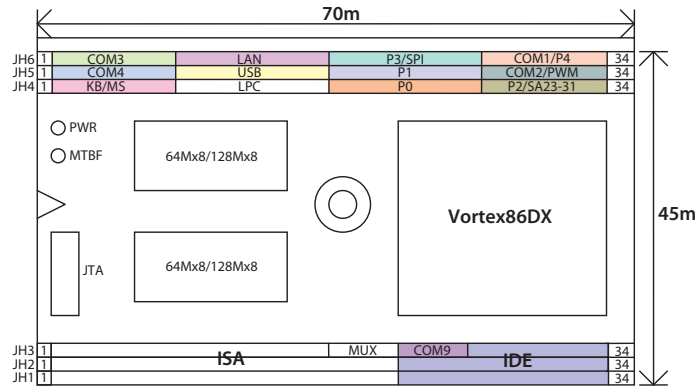
To assist users easily adapt DIP-204pin-ISA Module into their applications, ICOP offers the complete development board for DIP-204pin-ISA Module. ICOP also supplies customers with the referential circuit diagram reducing their time and effort during the development process.

Please visit the website below for further information

<http://www.dmp.com.tw/tech/vortex86dx/>

As to the referential circuit drawing, please contact [info@icop.com.tw](mailto:info@icop.com.tw)

### VDX-DIP-ISA



### DIP-204pin-ISA Signal Assignment

Pin	JH1	JH2	JH3	JH4	JH5	JH6
1	VCC-IN	VCC-IN	VCC3-OUT	VBATT	DCD4\	DCD3\
2	SD7	SD8	SA19	PWRGD	RXD4\	RXD3\
3	SD6	SD9	SA18	SPEAKER	TXD4\	TXD3\
4	SD5	SD10	SA17	KBCLK	DTR4\	DTR3\
5	SD4	SD11	SA16	KBDATA	DSR4\	DSR3\
6	SD3	SD12	SA15	MSCLK	RTS4\	RTS3\
7	SD2	SD13	SA14	MSDATA	CTS4\	CTS3\
8	SD1	SD14	SA13	24MHZ	RI4\	RI3\
9	SD0	SD15	SA12	LINK/ACTIVE	GND	GND
10	RSTDRV	IRQ5	SA11	DUPLEX	LANTX+	LANTX-
11	AEN	IRQ6	SA10	LFRAME-	LANRX+	LANRX-
12	SMEMW	IRQ7	SA9	LDRQ-	LUSBD0+	LUSBD0-
13	SMEMR	IRQ9	SA8	SERIRQ	LUSBD1+	LUSBD1-
14	IOW	IRQ12	SA7	LAD0	LUSBD2+	LUSBD2-
15	IOR	IRQ15	SA6	LAD1	LUSBD3+	LUSBD3-
16	REFRESH	MUX1	SA5	LAD2	GND	GND
17	SYSCLK	MUX2	SA4	GP00	GP10	SPICS
18	OSC	MUX3	SA3	GP01	GP11	SPICLK
19	MEMCS16	MUX4	SA2	GP02	GP12	SPIDO
20	IOCS16	MUX5	SA1	GP03	GP13	SPIDI
21	SBHE	MUX6	SA0	GP04	GP14	GP34
22	ROMCS	GPCS0	GPCS1	GP05	GP15	GP35
23	GND	GND	GND	GP06	GP16	GP36
24	IDESA0	IDESA1	TXD9\	GP07	GP17	GP37
25	IDED0	IDED8	RXD9\	LAD3	DCD2\	DCD1\
26	IDED1	IDED9	IDESA2	GP20	RXD2\	RXD1\
27	IDED2	IDED10	IDERST	GP21	TXD2\	TXD1\
28	IDED3	IDED11	IDEINT	GP22	DTR2\	DTR1\
29	IDED4	IDED12	IDEREQ	GP23	DSR2\	DSR1\
30	IDED5	IDED13	IDERDY	GP24	RTS2\	RTS1\
31	IDED6	IDED14	IDEIOW	GP25	CTS2\	CTS1\
32	IDED7	IDED15	IDEACK	GP26	RI2\	RI1\
33	IDECS0	IDECS1	IDECBLID	GP27	TXDEN2	TXDEN1
34	GND	GND	IDEIOR	VCC1.8-OUT	GND	GND

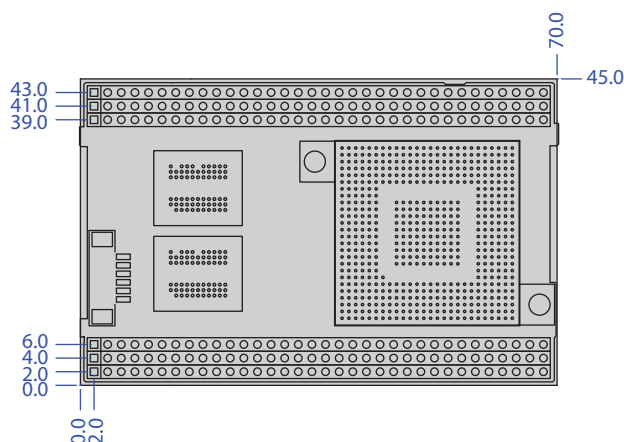
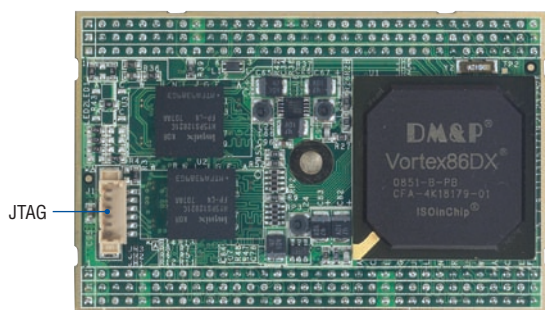
### DIP-204pin-ISA Signal Assignment (Optional)

Pin	JH4	JH5	JH6
1	VBATT	DCD4\	DCD3\
2	PWRGD	RXD4\	RXD3\
3	SPEAKER	TXD4\	TXD3\
4	KBCLK	DTR4\	DTR3\
5	KBDATA	DSR4\	DSR3\
6	MSCLK	RTS4\	RTS3\
7	MSDATA	CTS4\	CTS3\
8	24MHZ	RI4\	RI3\
9	LINK/ACTIVE	GND	GND
10	DUPLEX	LANTX+	LANTX-
11	LFRAME-	LANRX+	LANRX-
12	LDRQ-	LUSBD0+	LUSBD0-
13	SERIRQ	LUSBD1+	LUSBD1-
14	LAD0	LUSBD2+	LUSBD2-
15	LAD1	LUSBD3+	LUSBD3-
16	LAD2	GND	GND
17	GP00	GP10	GP30
18	GP01	GP11	GP31
19	GP02	GP12	GP32
20	GP03	GP13	GP34
21	GP04	GP14	GP34
22	GP05	GP15	GP35
23	GP06	GP16	GP36
24	GP07	GP17	GP37
25	LAD3	PWM0CLK	GP40
26	SA24	PWM2CLK	GP44
27	SA25	PWM0OUT	GP41
28	SA26	PWM2OUT	GP45
29	SA27	PWM0GATE	GP46
30	SA28	PWM1OUT	GP42
31	SA29	PWM1GATE	GP47
32	SA30	PWM1CLK	GP43
33	SA31	PWM2GATE	TXDEN1
34	VCC1.8-OUT	GND	GND

- 1 Processor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information



# VDX-DIP-PCI



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PCI interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 on board
<b>Watchdog Timer</b>	Software programmable from 30.5 $\mu$ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x5 USB port x4 16-bit GPIO port x2
<b>Connectors</b>	1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 380mA
<b>Weight</b>	23g
<b>Board Size</b>	70 x 45mm (2.75 x 1.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-DIP-PCI x1

## Ordering Information

- VDX-DIP-PCI Vortex86DX DIP-204pin-PCI CPU Module with 256MB DDR2

## DIP-204pin-PCI Module

DIP-204pin-PCI Module (70 x 45mm) is designed as the kernel of your own application, which integrates the Vortex86DX CPU, onboard 256MB DDR2, BIOS and multi I/O. The I/O interface of DIP-204PIN-ISA Module are 34-pin (1 x 34, pitch 2.0mm) connector x6 which including PCI bus, RS-232, Printer, IDE, LAN, USB, and GPIO.

For assisting users easily use our DIP-204pin- PCI Module, ICOP provides complete development kit of DIP-204pin- PCI Development Board for DIP-204pin- PCI Module.

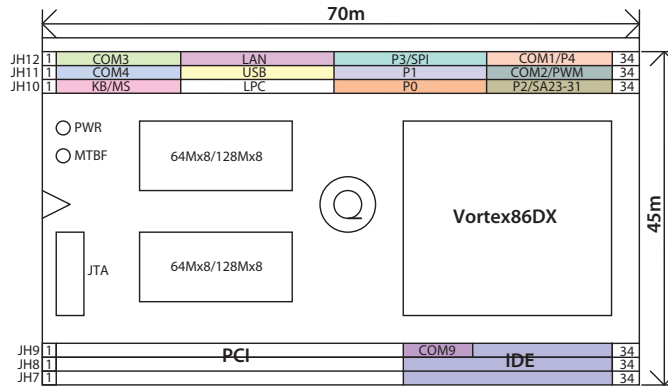
We also supply our customers with referential circuit diagram for easing user's effort during development process. Meanwhile, you can design your own based board which only equips I/O functions you need.

Please visit our website for getting further information you need:

<http://www.dmp.com.tw/tech/vortex86dx/>

You also can contact us for getting referential circuit drawing: [info@icop.com.tw](mailto:info@icop.com.tw)

### VDX-DIP-PCI



### DIP-204pin-PCI Signal Assignment

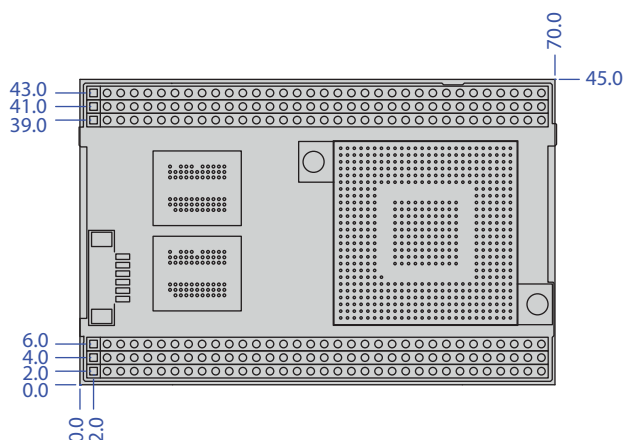
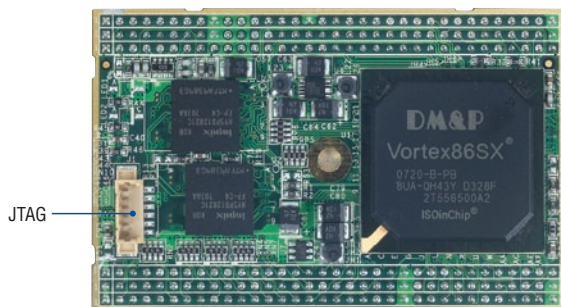
Pin	JH7	JH8	JH9	JH10	JH11	JH12
1	VCC-IN	VCC-IN	VCC3-OUT	VBATT	DCD4\	DCD3\
2	PCICLK0	PGNT-0	PREQ-0	PWRGD	RXD4\	RXD3\
3	PCICLK1	PGNT-1	PREQ-1	SPEAKER	TXD4\	TXD3\
4	PCICLK2	PGNT-2	PREQ-2	KBCLK	DTR4\	DTR3\
5	GND	GND	GND	KBDATA	DSR4\	DSR3\
6	INT-A	AD30	AD31	MSCLK	RTS4\	RTS3\
7	INT-B	AD28	AD29	MSDATA	CTS4\	CTS3\
8	INT-C	AD26	AD27	24MHZ	RI4\	RI3\
9	INT-D	AD24	AD25	LINK/ACTIVE	GND	GND
10	PCIRST-	AD22	AD23	DUPLEX	LANTX+	LANTX-
11	FRAME-	AD20	AD21	LFRAME-	LANRX+	LANRX-
12	IRDY-	AD18	AD19	LDRQ-	LUSBD0+	LUSBD0-
13	TRDY-	AD16	AD17	SERIRQ	LUSBD1+	LUSBD1-
14	DEVSEL-	AD14	AD15	LAD0	LUSBD2+	LUSBD2-
15	STOP-	AD12	AD13	LAD1	LUSBD3+	LUSBD3-
16	PAR	AD10	AD11	LAD2	GND	GND
17	CBE-3	AD8	AD9	GP00	GP10	SPICS
18	CBE-2	AD6	AD7	GP01	GP11	SPICLK
19	CBE-1	AD4	AD5	GP02	GP12	SPIDO
20	CBE-0	AD2	AD3	GP03	GP13	SPIDI
21	NC	AD0	AD1	GP04	GP14	GP34
22	NC	NC	NC	GP05	GP15	GP35
23	GND	GND	GND	GP06	GP16	GP36
24	IDESA0	IDESA1	TXD9\	GP07	GP17	GP37
25	IDE0	IDED8	RXD9\	LAD3	DCD2\	DCD1\
26	IDE1	IDED9	IDESA2	GP20	RXD2\	RXD1\
27	IDE2	IDED10	IDERST	GP21	TXD2\	TXD1\
28	IDE3	IDED11	IDEINT	GP22	DTR2\	DTR1\
29	IDE4	IDED12	IDEREQ	GP23	DSR2\	DSR1\
30	IDE5	IDED13	IDERDY	GP24	RTS2\	RTS1\
31	IDE6	IDED14	IDEIOW	GP25	CTS2\	CTS1\
32	IDE7	IDED15	IDEACK	GP26	RI2\	RI1\
33	IDEC S0	IDEC S1	IDECBLID	GP27	TXDEN2	TXDEN1
34	GND	GND	IDEIOR	VCC1.8-OUT	GND	GND

### DIP-204pin-PCI Signal Assignment (Optional)

Pin	JH10	JH11	JH12
1	VBATT	DCD4\	DCD3\
2	PWRGD	RXD4\	RXD3\
3	SPEAKER	TXD4\	TXD3\
4	KBCLK	DTR4\	DTR3\
5	KBDATA	DSR4\	DSR3\
6	MSCLK	RTS4\	RTS3\
7	MSDATA	CTS4\	CTS3\
8	24MHZ	RI4\	RI3\
9	LINK/ACTIVE	GND	GND
10	DUPLEX	LANTX+	LANTX-
11	LFRAME-	LANRX+	LANRX-
12	LDRQ-	LUSBD0+	LUSBD0-
13	SERIRQ	LUSBD1+	LUSBD1-
14	LAD0	LUSBD2+	LUSBD2-
15	LAD1	LUSBD3+	LUSBD3-
16	LAD2	GND	GND
17	GP00	GP10	GP30
18	GP01	GP11	GP31
19	GP02	GP12	GP32
20	GP03	GP13	GP34
21	GP04	GP14	GP34
22	GP05	GP15	GP35
23	GP06	GP16	GP36
24	GP07	GP17	GP37
25	LAD3	PWM0CLK	GP40
26	SA24	PWM2CLK	GP44
27	SA25	PWM0OUT	GP41
28	SA26	PWM2OUT	GP45
29	SA27	PWM0GATE	GP46
30	SA28	PWM1OUT	GP42
31	SA29	PWM1GATE	GP47
32	SA30	PWM1CLK	GP43
33	SA31	PWM2GATE	TXDEN1
34	VCC1.8-OUT	GND	GND

- 1 **1** Processor Module
- 2 **2** Mity/Tiny CPU Module
- 3 **3** PC/104 CPU Module
- 4 **4** Half-Size CPU Module
- 5 **5** 3.5" CPU Module
- 6 **6** Peripheral Module
- 7 **7** Display Product Series
- 8 **8** Accessories & Technical Information

# VSX-DIP-ISA-V2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5 $\mu$ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x5 USB port x4 16-bit GPIO port x2
<b>Connectors</b>	1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 340mA
<b>Weight</b>	23g
<b>Board Size</b>	70 x 45mm (2.75 x 1.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-DIP-ISA-V2 x1

## Ordering Information

- **VSX-DIP-ISA-V2** Vortex86SX DIP-204pin-ISA CPU Module with 128MB DDR2

## DIP-204pin-ISA Module

DIP-204pin-ISA module, measured at only 70 x 45mm, is designed particularly as the kernel for the diverse expandable applications. Through 6 rows of 34pin connector, DIP-204pin-ISA module is able to provide multiple functions, such as PCI BUS, RS-232, IDE, LAN, USB and GPIO.

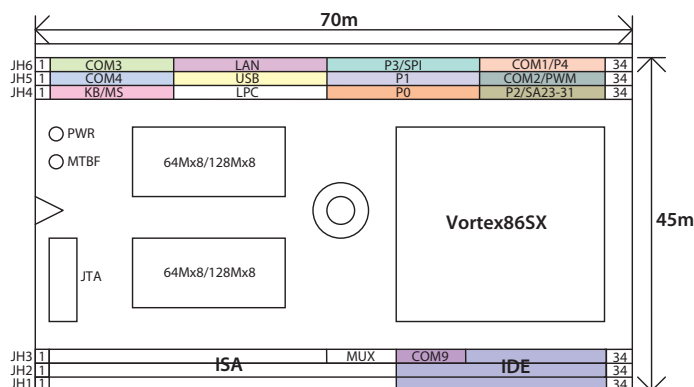
To assist users easily adapt DIP-204pin-ISA Module into their applications, ICOP offers the complete development board for DIP-204pin-ISA Module. ICOP also supplies customers with the referential circuit diagram reducing their time and effort during the development process.

Please visit the website below for further information

<http://www.dmp.com.tw/tech/vortex86sx/>

As to the referential circuit drawing, please contact [info@icop.com.tw](mailto:info@icop.com.tw)

### VSX-DIP-ISA-V2



### DIP-204pin-ISA Signal Assignment

Pin	JH1	JH2	JH3	JH4	JH5	JH6
1	VCC-IN	VCC-IN	VCC3-OUT	VBATT	DCD4\	DCD3\
2	SD7	SD8	SA19	PWRGD	RXD4\	RXD3\
3	SD6	SD9	SA18	SPEAKER	TXD4\	TXD3\
4	SD5	SD10	SA17	KBCLK	DTR4\	DTR3\
5	SD4	SD11	SA16	KBDATA	DSR4\	DSR3\
6	SD3	SD12	SA15	MSCLK	RTS4\	RTS3\
7	SD2	SD13	SA14	MSDATA	CTS4\	CTS3\
8	SD1	SD14	SA13	24MHZ	RI4\	RI3\
9	SD0	SD15	SA12	LINK/ACTIVE	GND	GND
10	RSTDRV	IRQ5	SA11	DUPLEX	LANTX+	LANTX-
11	AEN	IRQ6	SA10	LFRAME-	LANRX+	LANRX-
12	SMEMW	IRQ7	SA9	LDRQ-	LUSBD0+	LUSBD0-
13	SMEMR	IRQ9	SA8	SERIRQ	LUSBD1+	LUSBD1-
14	IOW	IRQ12	SA7	LAD0	LUSBD2+	LUSBD2-
15	IOR	IRQ15	SA6	LAD1	LUSBD3+	LUSBD3-
16	REFRESH	MUX1	SA5	LAD2	GND	GND
17	SYSCLK	MUX2	SA4	GP00	GP10	SPICS
18	OSC	MUX3	SA3	GP01	GP11	SPICLK
19	MEMCS16	MUX4	SA2	GP02	GP12	SPIDO
20	IOCS16	MUX5	SA1	GP03	GP13	SPIDI
21	SBHE	MUX6	SA0	GP04	GP14	GP34
22	ROMCS	GPCS0	GPCS1	GP05	GP15	GP35
23	GND	GND	GND	GP06	GP16	GP36
24	IDESA0	IDESA1	TXD9\	GP07	GP17	GP37
25	IDED0	IDED8	RXD9\	LAD3	DCD2\	DCD1\
26	IDED1	IDED9	IDESA2	GP20	RXD2\	RXD1\
27	IDED2	IDED10	IDERST	GP21	TXD2\	TXD1\
28	IDED3	IDED11	IDEINT	GP22	DTR2\	DTR1\
29	IDED4	IDED12	IDEREQ	GP23	DSR2\	DSR1\
30	IDED5	IDED13	IDERDY	GP24	RTS2\	RTS1\
31	IDED6	IDED14	IDEIOW	GP25	CTS2\	CTS1\
32	IDED7	IDED15	IDEACK	GP26	RI2\	RI1\
33	IDECS0	IDECS1	IDECBLID	GP27	TXDEN2	TXDEN1
34	GND	GND	IDEIOR	VCC1.8-OUT	GND	GND

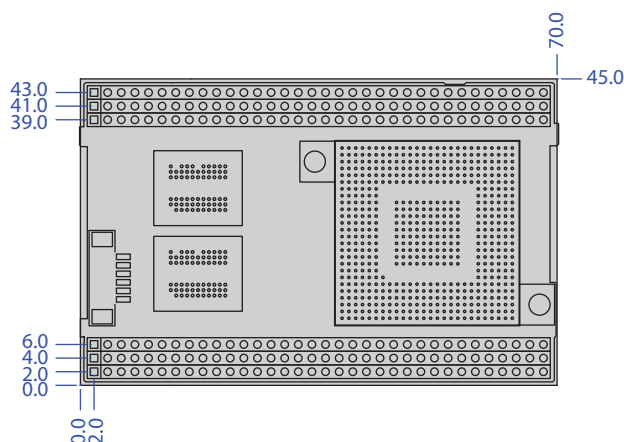
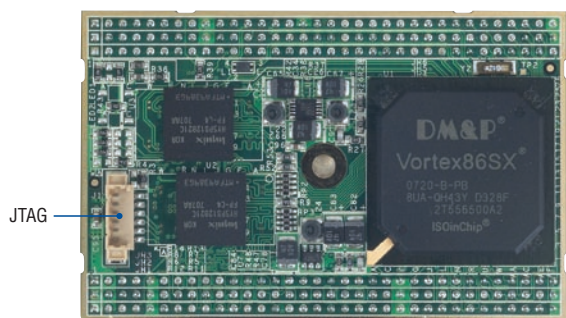
### DIP-204pin-ISA Signal Assignment (Optional)

Pin	JH4	JH5	JH6
1	VBATT	DCD4\	DCD3\
2	PWRGD	RXD4\	RXD3\
3	SPEAKER	TXD4\	TXD3\
4	KBCLK	DTR4\	DTR3\
5	KBDATA	DSR4\	DSR3\
6	MSCLK	RTS4\	RTS3\
7	MSDATA	CTS4\	CTS3\
8	24MHZ	RI4\	RI3\
9	LINK/ACTIVE	GND	GND
10	DUPLEX	LANTX+	LANTX-
11	LFRAME-	LANRX+	LANRX-
12	LDRQ-	LUSBD0+	LUSBD0-
13	SERIRQ	LUSBD1+	LUSBD1-
14	LAD0	LUSBD2+	LUSBD2-
15	LAD1	LUSBD3+	LUSBD3-
16	LAD2	GND	GND
17	GP00	GP10	GP30
18	GP01	GP11	GP31
19	GP02	GP12	GP32
20	GP03	GP13	GP34
21	GP04	GP14	GP34
22	GP05	GP15	GP35
23	GP06	GP16	GP36
24	GP07	GP17	GP37
25	LAD3	PWM0CLK	GP40
26	SA24	PWM2CLK	GP44
27	SA25	PWM0OUT	GP41
28	SA26	PWM2OUT	GP45
29	SA27	PWM0GATE	GP46
30	SA28	PWM1OUT	GP42
31	SA29	PWM1GATE	GP47
32	SA30	PWM1CLK	GP43
33	SA31	PWM2GATE	TXDEN1
34	VCC1.8-OUT	GND	GND

- 1 Processor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information



# VSX-DIP-PCI-V2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PCI interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5 $\mu$ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x5 USB port x4 16-bit GPIO port x2
<b>Connectors</b>	1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 340mA
<b>Weight</b>	23g
<b>Board Size</b>	70 x 45mm (2.75 x 1.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-DIP-PCI-V2 x1

## Ordering Information

- VSX-DIP-PCI-V2** Vortex86SX DIP-204pin-PCI CPU Module with 128MB DDR2

## DIP-204pin-PCI Module

DIP-204pin-PCI Module (70x45mm) is designed as the kernel of your own application, which integrates the Vortex86SX CPU, onboard 128MB DDR2, BIOS and multi I/O. The I/O interface of DIP-204PIN-PCI Module are 34-pin (1x34, pitch 2.0mm) connector x6 which including PCI bus, RS-232, IDE, LAN, USB, and GPIO.

For assisting users easily use our DIP-204pin-PCI Module, ICOP provides complete development kit of DIP-204pin-PCI Development Board for DIP-204pin-PCI Module.

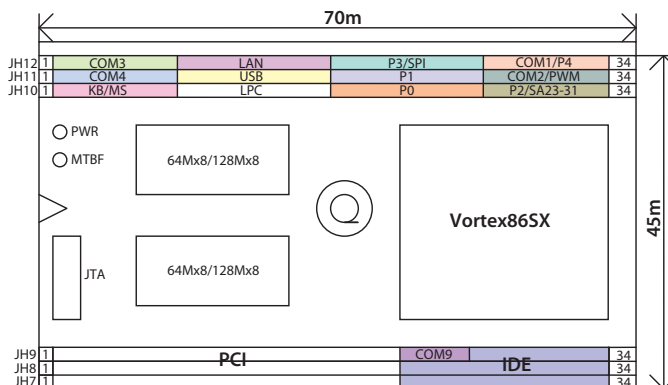
We also supply our customers with referential circuit diagram for easing user's effort during development process. Meanwhile, you can design your own based board which only equips I/O functions you need.

Please visit our website for getting further information you need:

<http://www.dmp.com.tw/tech/vortex86sx/>

You also can contact us for getting referential circuit drawing: [info@icop.com.tw](mailto:info@icop.com.tw)

### VSX-DIP-PCI-V2



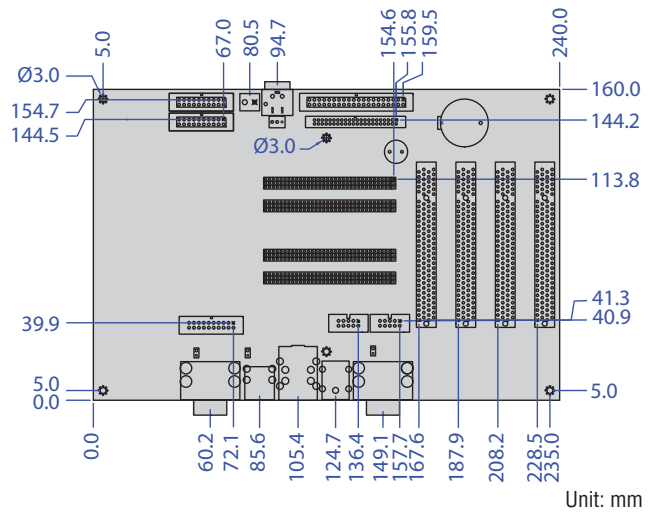
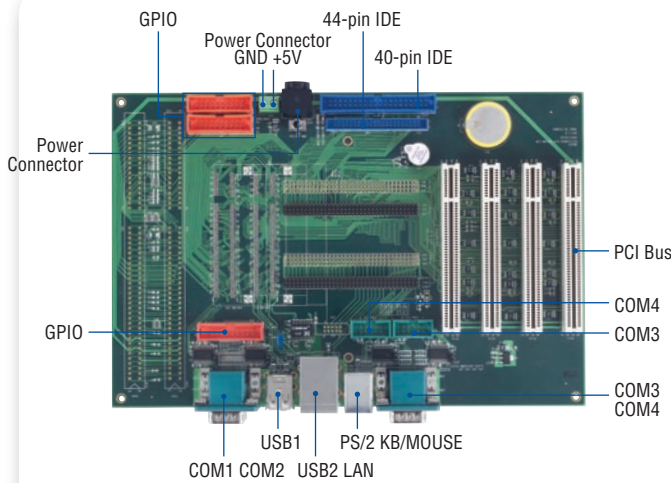
### DIP-204pin-PCI Signal Assignment

Pin	JH7	JH8	JH9	JH10	JH11	JH12
1	VCC-IN	VCC-IN	VCC3-OUT	VBATT	DCD4\	DCD3\
2	PCICLK0	PGNT-0	PREQ-0	PWRGD	RXD4\	RXD3\
3	PCICLK1	PGNT-1	PREQ-1	SPEAKER	TXD4\	TXD3\
4	PCICLK2	PGNT-2	PREQ-2	KBCLK	DTR4\	DTR3\
5	GND	GND	GND	KBDATA	DSR4\	DSR3\
6	INT-A	AD30	AD31	MSCLK	RTS4\	RTS3\
7	INT-B	AD28	AD29	MSDATA	CTS4\	CTS3\
8	INT-C	AD26	AD27	24MHZ	RI4\	RI3\
9	INT-D	AD24	AD25	LINK/ACTIVE	GND	GND
10	PCIRST-	AD22	AD23	DUPLEX	LANTX+	LANTX-
11	FRAME-	AD20	AD21	LFRAME-	LANRX+	LANRX-
12	IRDY-	AD18	AD19	LDRQ-	LUSBD0+	LUSBD0-
13	TRDY-	AD16	AD17	SERIRQ	LUSBD1+	LUSBD1-
14	DEVSEL-	AD14	AD15	LAD0	LUSBD2+	LUSBD2-
15	STOP-	AD12	AD13	LAD1	LUSBD3+	LUSBD3-
16	PAR	AD10	AD11	LAD2	GND	GND
17	CBE-3	AD8	AD9	GP00	GP10	GP30
18	CBE-2	AD6	AD7	GP01	GP11	GP31
19	CBE-1	AD4	AD5	GP02	GP12	GP32
20	CBE-0	AD2	AD3	GP03	GP13	GP33
21	NC	AD0	AD1	GP04	GP14	GP34
22	NC	NC	NC	GP05	GP15	GP35
23	GND	GND	GND	GP06	GP16	GP36
24	IDESA0	IDESA1	TXD9\	GP07	GP17	GP37
25	IDE0	IDED8	RXD9\	LAD3	DCD2\	DCD1\
26	IDE1	IDED9	IDESA2	GP20	RXD2\	RXD1\
27	IDE2	IDED10	IDERST	GP21	TXD2\	TXD1\
28	IDE3	IDED11	IDEINT	GP22	DTR2\	DTR1\
29	IDE4	IDED12	IDEREQ	GP23	DSR2\	DSR1\
30	IDE5	IDED13	IDERDY	GP24	RTS2\	RTS1\
31	IDE6	IDED14	IDEIOW	GP25	CTS2\	CTS1\
32	IDE7	IDED15	IDEACK	GP26	RI2\	RI1\
33	IDECs0	IDECs1	IDECBLID	GP27	TXDEN2	TXDEN1
34	GND	GND	IDEIOR	VCC1.8-OUT	GND	GND

### DIP-204pin-PCI Signal Assignment (Optional)

Pin	JH10	JH11	JH12
1	VBATT	DCD4\	DCD3\
2	PWRGD	RXD4\	RXD3\
3	SPEAKER	TXD4\	TXD3\
4	KBCLK	DTR4\	DTR3\
5	KBDATA	DSR4\	DSR3\
6	MSCLK	RTS4\	RTS3\
7	MSDATA	CTS4\	CTS3\
8	24MHZ	RI4\	RI3\
9	LINK/ACTIVE	GND	GND
10	DUPLEX	LANTX+	LANTX-
11	LFRAME-	LANRX+	LANRX-
12	LDRQ-	LUSBD0+	LUSBD0-
13	SERIRQ	LUSBD1+	LUSBD1-
14	LAD0	LUSBD2+	LUSBD2-
15	LAD1	LUSBD3+	LUSBD3-
16	LAD2	GND	GND
17	GP00	GP10	GP30
18	GP01	GP11	GP31
19	GP02	GP12	GP32
20	GP03	GP13	GP33
21	GP04	GP14	GP34
22	GP05	GP15	GP35
23	GP06	GP16	GP36
24	GP07	GP17	GP37
25	LAD3	PWM0CLK	GP40
26	SA24	PWM2CLK	GP44
27	SA25	PWM0OUT	GP41
28	SA26	PWM2OUT	GP45
29	SA27	PWM0GATE	GP46
30	SA28	PWM1OUT	GP42
31	SA29	PWM1GATE	GP47
32	SA30	PWM1CLK	GP43
33	SA31	PWM2GATE	TXDEN1
34	VCC1.8-OUT	GND	GND

- 1 **1** Processor Module
- 2 **2** Mity/Tiny CPU Module
- 3 **3** PC/104 CPU Module
- 4 **4** Half-Size CPU Module
- 5 **5** 3.5" CPU Module
- 6 **6** Peripheral Module
- 7 **7** Display Product Series
- 8 **8** Accessories & Technical Information



## Specifications

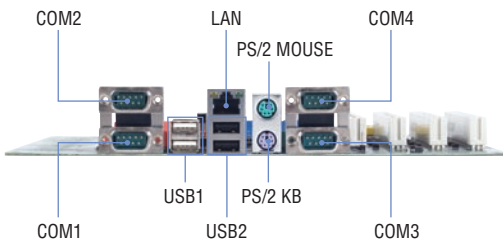
<b>Connectors</b>	2.54mm 40-pin header for IDE x1 2.54mm 20-pin box header for GPIO x3 2.54mm 10-pin box header for RS-232 x2 2.0mm 44-pin header for IDE x1 124-pin slot for PCI x4 External RJ-45 connector for Ethernet x1 External USB connector x4 External 9-pin D-Sub male connector for RS-232 x4 External 6-pin Mini DIN connector for Keyboard x1 External 6-pin Mini DIN connector for Mouse x1
<b>Power Requirement</b>	Single Voltage +5V @ 250mA
<b>Weight</b>	300g
<b>Board Size</b>	240 x 160 mm (9.45 x 6.3 inches)
<b>Operating Temperature</b>	-40°C ~ +85°C

## Packing List

- VSX-DEV-204-PCI x1
- Cable
  - HDD 40P (2.54) x1
  - RS-232 (2.54) x2
  - GPIO (2.54) x3
  - HDD 44P (2.0) x1

## Ordering Information

- **VSX-DEV-204-PCI** VSX-DIP-PCI Development Board
- **PCI-VGA-Z9s** XGI Z9s VGA/DVI PCI Board



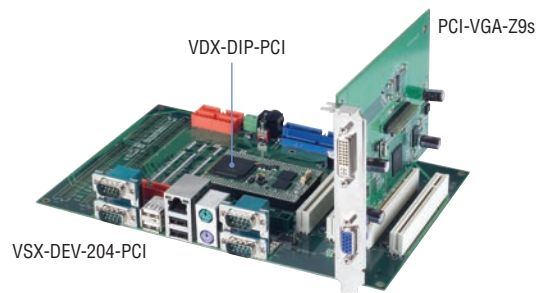
## PCI-VGA-Z9s

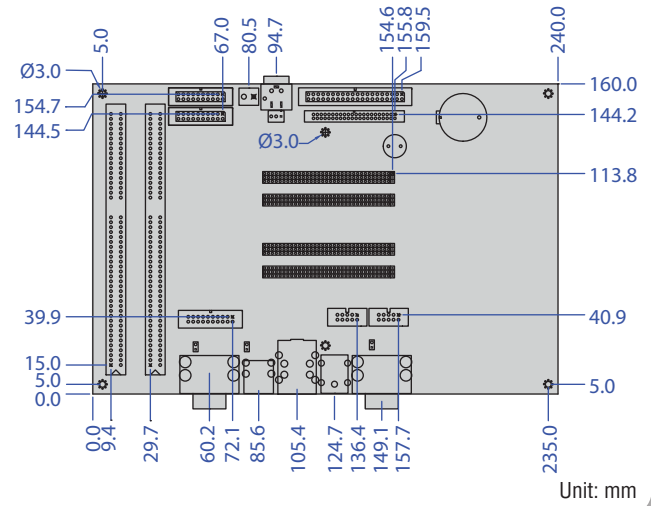
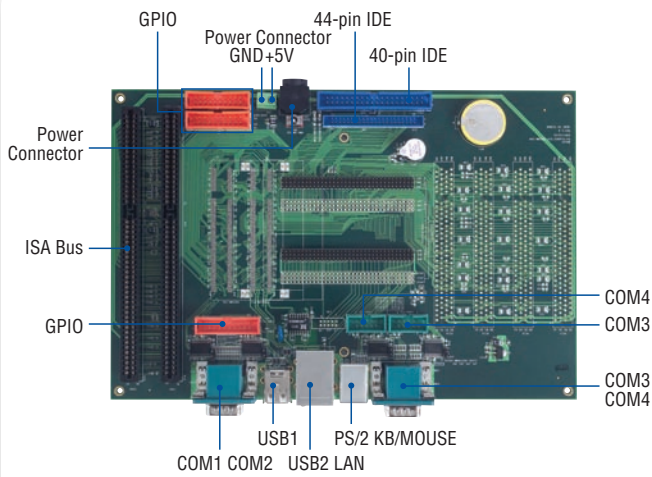


## Features

- XGI Volari Z9s Chipset
- PCI Bus
- 32MB DDR2 VGA Memory
- 1600 x 1200 @16M Colors Resolution
- VGA & DVI Support

## VSX-DIP-PCI Development Kit





## Specifications

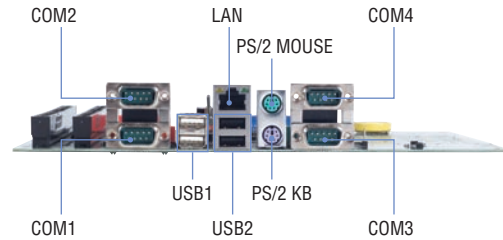
<b>Connectors</b>	2.54mm 40-pin header for IDE x1 2.54mm 20-pin box header for GPIO x3 2.54mm 10-pin box header for RS-232 x2 2.0mm 44-pin header for IDE x1 98-pin slot for ISA x2 External RJ-45 connector for Ethernet x1 External USB connector x4 External 9-pin D-Sub male connector for RS-232 x4 External 6-pin Mini DIN connector for Keyboard x1 External 6-pin Mini DIN connector for Mouse x1
<b>Power Requirement</b>	Single Voltage +5V @ 250mA
<b>Weight</b>	300g
<b>Board Size</b>	240 x 160 mm (9.45 x 6.3 inches)
<b>Operating Temperature</b>	-40°C ~ +85°C

## Packing List

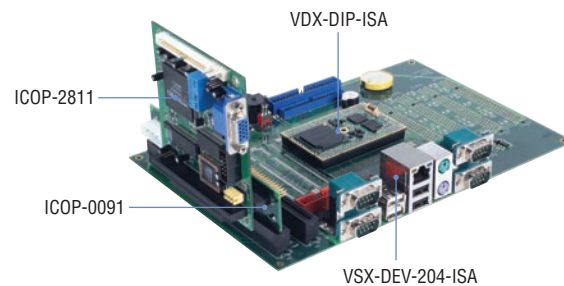
- VSX-DEV-204-ISA x1
- Cable
- HDD 40P (2.54) x1
- RS-232 (2.54) x2
- GPIO (2.54) x3
- HDD 44P (2.0) x1

## Ordering information

- **VSX-DEV-204-ISA** VSX-DIP-ISA Development Board
- **ICOP-2811** PC/104 VGA/LCD Module
- **ICOP-0091** PC/104 Interface to ISA Bus



## VSX-DIP-PCI Development Kit



1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

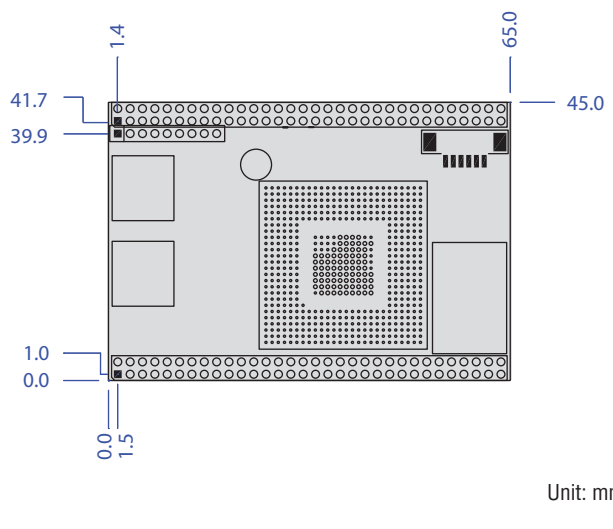
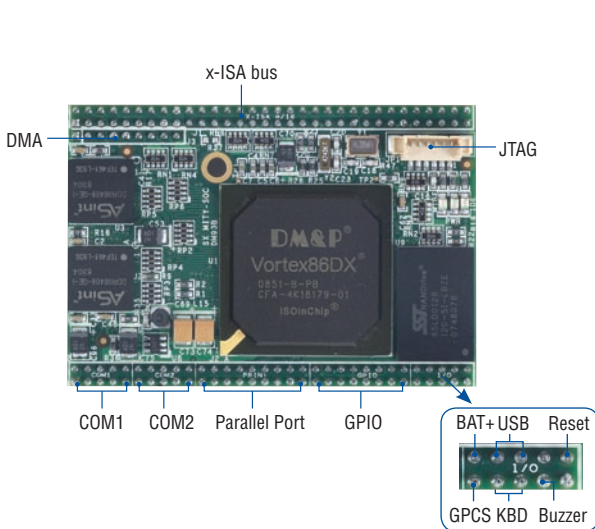
7

Display Product Series

8

Accessories & Technical Information





### Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk Onboard EmbedDisk 128 / 256 / 512MB
<b>I/O Interface</b>	RS-232 port x2 USB port (Ver2.0) x1 Parallel port x1 16-bit GPIO port x1
<b>Connectors</b>	2.0mm 64-pin header for 16-bit x-ISA interface x1 2.0mm 64-pin header for I/O interface x1 2.0mm 9-pin header for DMA x1 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 370mA
<b>Weight</b>	30g
<b>Board Size</b>	65 x 45mm (2.56 x 1.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C(Optional)

### Mity-SoC Module

Mity-SoC Module: VDX-6319-F-D (65 x 45mm) is designed as the kernel of your own application, which integrates the Vortex86DX CPU, onboard 256/512MB DDR2, EmbedDisk-128/256/512MB, BIOS and multi I/O. The I/O interface of Mity-SoC are 64-pin (2 x 32, pitch 2.0mm) connector x2; one is for x-ISA bus, another is for all I/O functions which including RS-232, Printer, IDE, and GPIO.

For assisting users easily use our Mity-SoC Module, ICOP provides complete development kit of Mity-SoC Development Board and Mity-SoC VGA/LCD Development Kit for Mity-SoC Module.

We also supply our customers with referential circuit diagram for easing user's effort during development process. Meanwhile, you can design your own based board which only equips I/O functions you need.

Please visit our website for getting further information you need:

<http://www.dmp.com.tw/tech/vortex86dx/>

You also can contact us for getting referential circuit drawing: [info@icop.com.tw](mailto:info@icop.com.tw)

### Mity-SoC CPU Module Ordering Selection

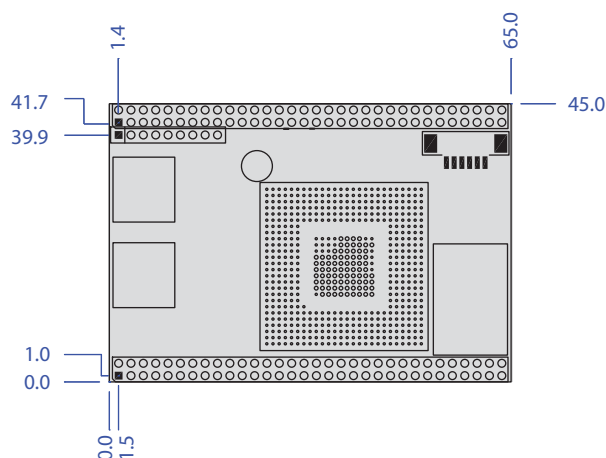
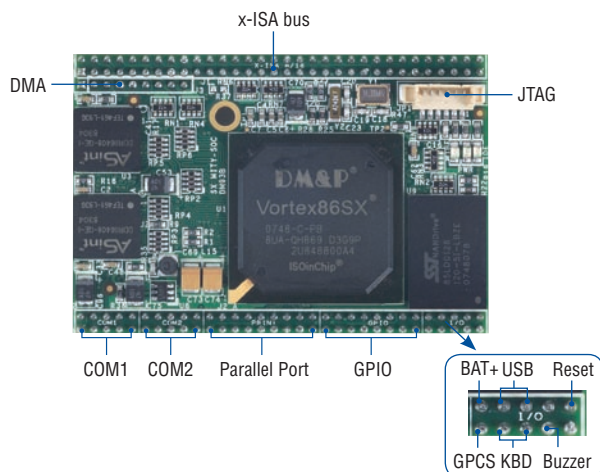
Ordering Type No.	SST-128MB	SPI-4MB	TTL	RS-232
VDX-6319-F-A	V		V	
VDX-6319-F-B	V			V
VDX-6319-F-C	V	V	V	
VDX-6319-F-D	V	V		V

### Packing List

- VDX-6319-F-D x1

### Ordering information

- **VDX-6319-F-D** Vortex86DX Mity-SoC CPU Module with 256MB DDR2
- **VSX-6119-1** Mity-SoC Development Board
- **ICOP-6019-VGA** Mity-SoC VGA/LCD Development Kit



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300 MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1: 16K I-Cache, 16K D-Cache
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5 $\mu$ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk Onboard EmbedDisk 128/256/512MB
<b>I/O Interface</b>	RS-232 port x 2 USB port (Ver2.0) x 1 Parallel port x 1 16-bit GPIO port x 1
<b>Connectors</b>	2.0mm 64-pin header for 16-bit x-ISA interface x 1 2.0mm 64-pin header for I/O interface x 1 2.0mm 9-pin header for DMA x 1 1.25mm 6-pin wafer for JTAG x 1
<b>Power Requirement</b>	Single Voltage +5V@330mA
<b>Weight</b>	30g
<b>Board Size</b>	65 x 45mm (2.56 x 1.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Mity-SoC Module

Mity-SoC Module: VSX-6119-F-D (65x45mm) is designed as the kernel of your own application, which integrates the Vortex86SX CPU, Onboard 128MB DDR2, EmbedDisk-128MB, BIOS and multi I/O. The I/O interface of Mity-SoC are 64-pin (2 x 32, pitch 2.0 mm) connector x 2; one is for x-ISA bus, another one for all I/O functions which including RS-232, Printer, IDE, and GPIO.

For assisting users easily use our Mity-SoC Module, ICOP provides complete development kit of Mity-SoC Development Board and Mity-SoC VGA/LCD Development Kit for Mity-SoC Module.

We also supply our customers with referential circuit diagram for easing user's effort during development process. Meanwhile, you can design your own based board which only equips I/O functions you need.

Please visit our website for getting further information you need:

<http://www.dmp.com.tw/tech/vortex86sx/>

You also can contact us for getting referential circuit drawing: [infor@icop.com.tw](mailto:infor@icop.com.tw)

Mity-SoC CPU Module Ordering Selection

Ordering Type No.	SST-128MB	SPI-2MB	TTL	RS-232
VSX-6119-F-A	V		V	
VSX-6119-F-B	V			V
VSX-6119-F-C	V	V	V	
VSX-6119-F-D	V	V		V

## Packing List

- VSX-6119-F-D-V2 x1

## Ordering information

- VSX-6119-F-D-V2** Vortex86SX Mity-SoC CPU Module with 128MB DDR2
- VSX-6119-1** Mity-SoC Development Board
- ICOP-6019-VGA** Mity-SoC VGA/LCD Development Kit

1

$\mu$ Processor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Hall-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

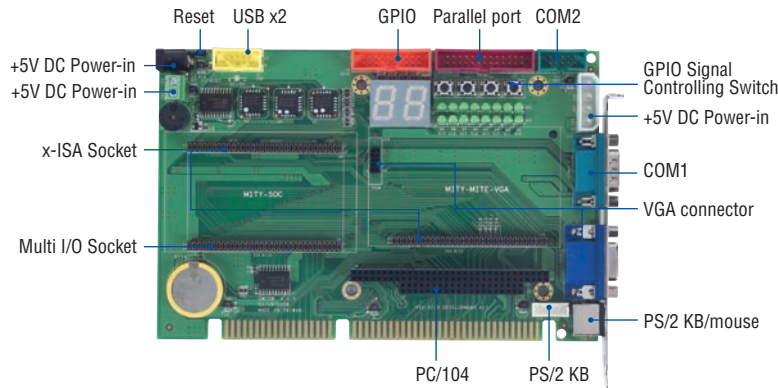
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Display Product Series

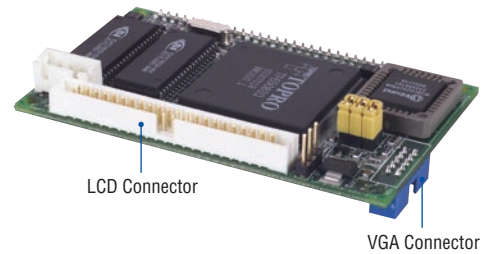
8

Accessories & Technical Information

### VSX-6119-1



### ICOP-6019-VGA



### Specifications

<b>Bus</b>	16-bit x-ISA interface PC/104 standard compliant
<b>Status Indicator</b>	Digit Type 7-Segment LED Display for POST Code x2 GPIO LED x16
<b>Connectors</b>	2.54mm 26-pin box header for Printer x1 2.54mm 20-pin box header for 16-bit GPIO x1 2.54mm 10-pin box header for RS-232 x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 2-pin header for Reset x1 32-pin DIP socket for DOC x1 External 15-pin D-Sub female connector for VGA External 9-pin D-Sub male connector for RS-232 x1 External Mini DIN connector for Keyboard/Mouse x1 4-pin Molex connector for Power input x1 2-pin Terminal strip for Power input x1 DC Jack for Power input x1
<b>Power Requirement</b>	Single Voltage +5V @ 150mA
<b>Dimension</b>	185 X 122mm (7.28 x 4.8 inches)
<b>Weight</b>	172g
<b>Operating Temperature</b>	-40°C ~ +85°C

### Packing List

- VSX-6119-1
- CD for User's Manual & Driver x1
- Cable  
 RS-232 (2.54) x1  
 Printer (2.54) x1  
 GPIO (2.54) x1  
 YKB x1

### Specifications

<b>Chipset</b>	TOPRO TP6508IQ VGA and Mono/STN/DSTN/TFT Flat Panel interface support
<b>Bus</b>	16-bit x-ISA interface
<b>VGA Memory</b>	Onboard 1MB EDO RAM, support resolution up to 1024 x 768, 256 colors
<b>Connectors</b>	2.0mm 44-pin box header for LCD x1 2.0mm 10-pin box header for VGA x1 2.54mm 4-pin wafer for +12V, -12V, -5V DC-in x1
<b>Power Requirement</b>	Single Voltage +5V @ 200mA
<b>Weight</b>	32g
<b>Board Size</b>	80 X 50mm (3.14 x 1.96 inches)
<b>Operating Temperature</b>	-20°C ~ +60°C

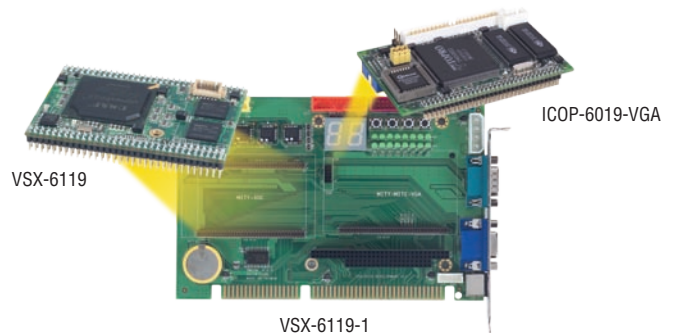
### Packing List

- ICOP-6019-VGA x1

### Ordering Information

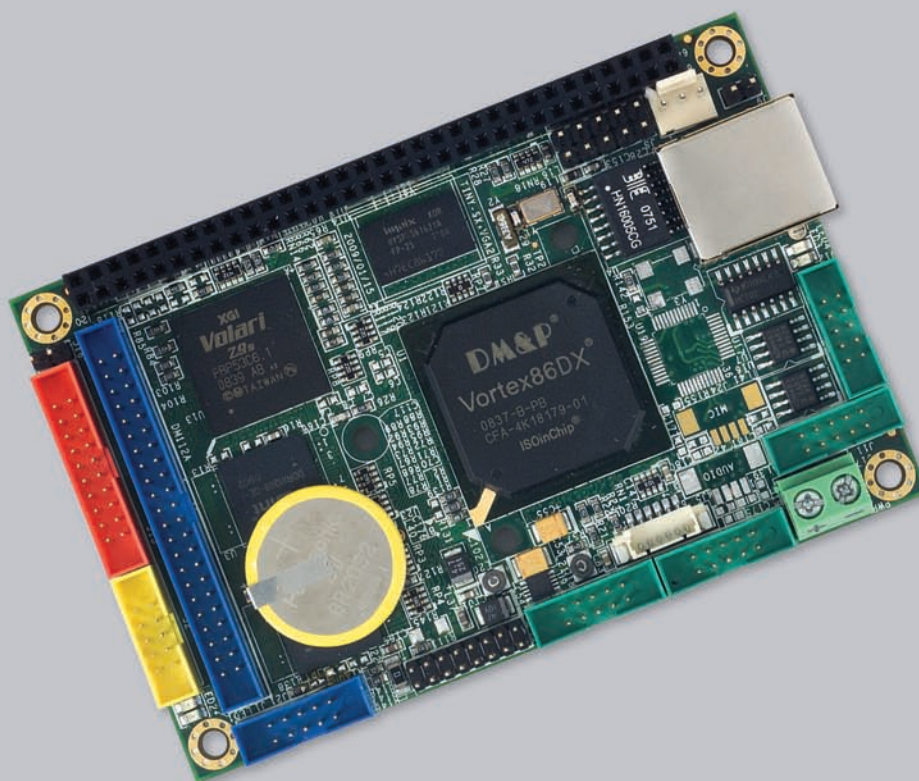
- **VSX-6119-1** Mity-SoC Development Board
- **ICOP-6019-VGA** Mity-SoC VGA/LCD Development Kit

### Mity-SoC Development Kit



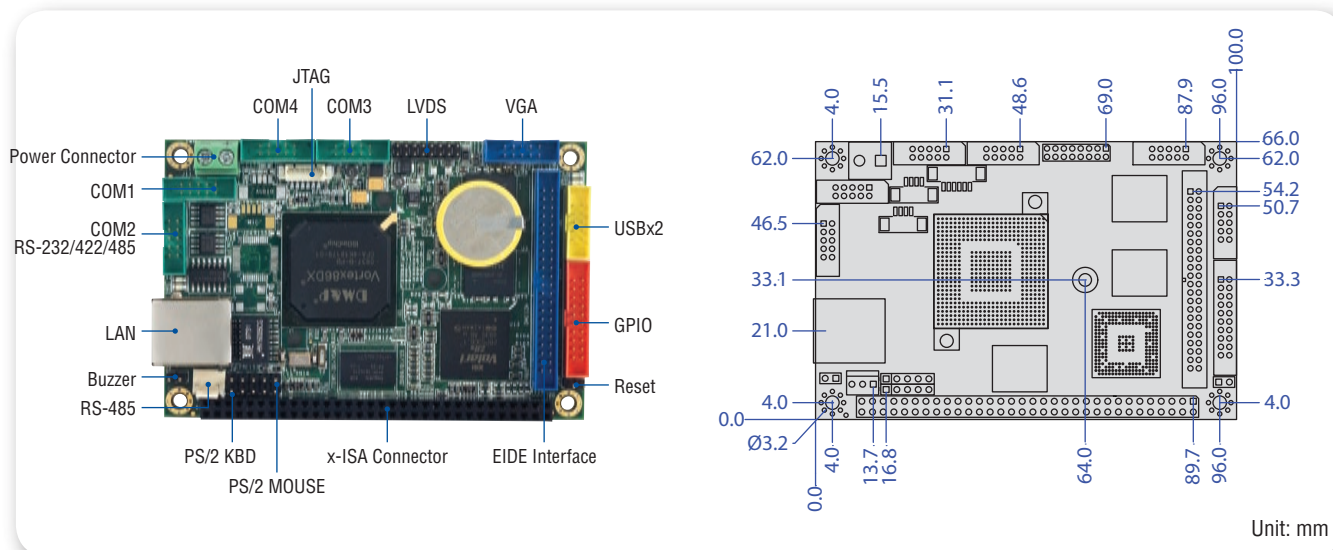
# Mity/Tiny CPU Module

offer the most compact embedded system for small application such as IP camera and Handheld PC.



VDX-6314	Vortex86DX Tiny CPU Module 256MB/4S/2USB/VGA/LVDS/LAN/GPIO/PWMx16 .....	42
VDX-6315	Vortex86DX Tiny CPU Module 256MB/4S/2USB/LAN/2GPIO/PWMx24.....	43
VDX-6316	Vortex86DX Tiny CPU Module 256MB/2S/2USB/2GPIO/PWMx24.....	44
VDX-6317-X	Vortex86DX Mity-Mite CPU Module with X-DOS Pre-installed.....	45
VDX-6318	Vortex86DX Tiny CPU Module 256MB/4S/4USB/VGA/LCD/AUDIO/LAN/2GPIO/PWMx24...	46
VSX-6114-V2	Vortex86SX Tiny CPU Module 128MB/4S/2USB/VGA/LVDS/LAN/GPIO .....	47
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ICOP-2720	Tiny VGA/LCD Development Kit.....	52
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### Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5µ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 10240, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB Audio controller (Optional)
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for VGA x1 2.0mm 16-pin header for LVDS x1 2.54mm 5-pin header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 3-pin header for RS-485 x1 1.25mm 6-pin wafer for JTAG x1 1.25mm 4-pin wafer for Line-out/MIC-in x2 (Optional) External RJ-45 connector for Ethernet x1

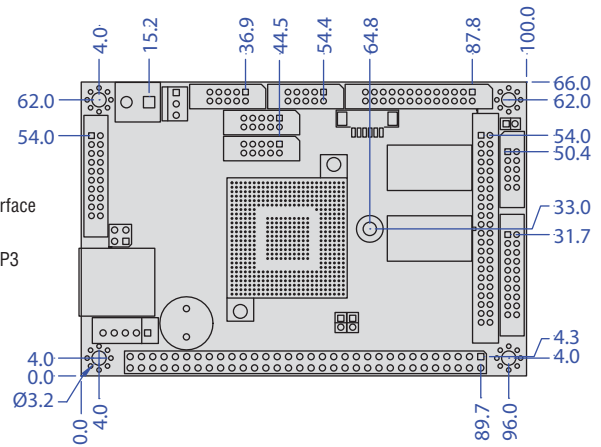
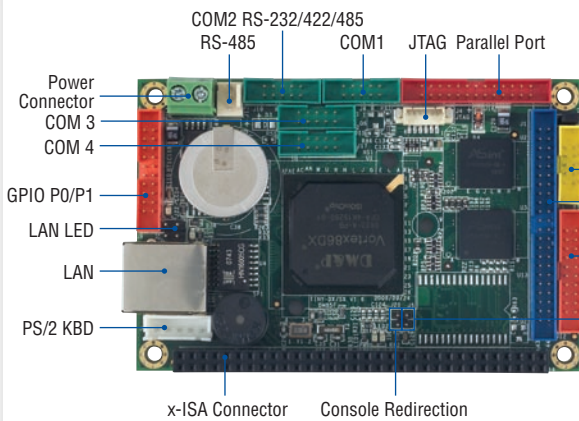
<b>Power Requirement</b>	Single Voltage +5V @700mA
<b>Weight</b>	65g
<b>Board Size</b>	100 x 66 mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

- VDX-6314 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x1
  - GPIO (2.0) x1
  - PS2 Mouse Black x2

### Ordering information

- **VDX-6314** Vortex86DX Tiny CPU Module with 256MB DDR2
- **VDX-6314-512** Vortex86DX Tiny CPU Module with 512MB DDR2
- **VDX-6314-AU** Vortex86DX Tiny CPU Module with 256MB DDR2, Audio



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5 $\mu$ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	24~32 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x2 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x2 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.0mm 2-pin header for Reset x1 2.0mm 2-pin header for Console redirection x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for LINK LED x1 2.54mm 2-pin header for TX/RX LED x1 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1
<b>Power Requirement</b>	Single Voltage +5V @ 480mA

<b>Weight</b>	63g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20 °C ~ +70 °C -40 °C ~ +85 °C (Optional)

## Packing List

- VDX-6315 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x1
  - GPIO (2.0) x2
  - PS2 KB White x1

## Ordering information

- **VDX-6315** Vortex86DX Tiny CPU Module with 256MB DDR2
- **ICOP-2720** Tiny VGA/LCD Development Kit

1

μProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

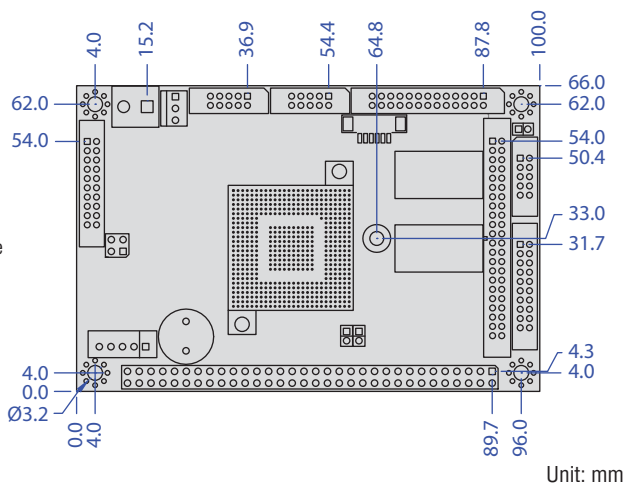
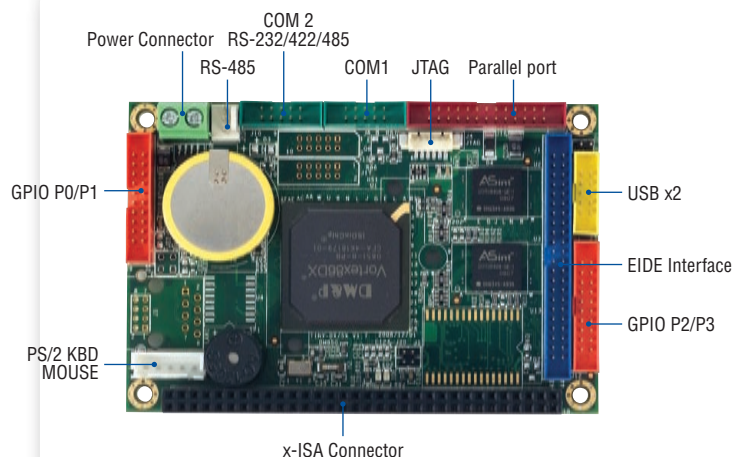
Peripheral Module

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Display Product Series

8

Accessories & Technical Information



## Specifications

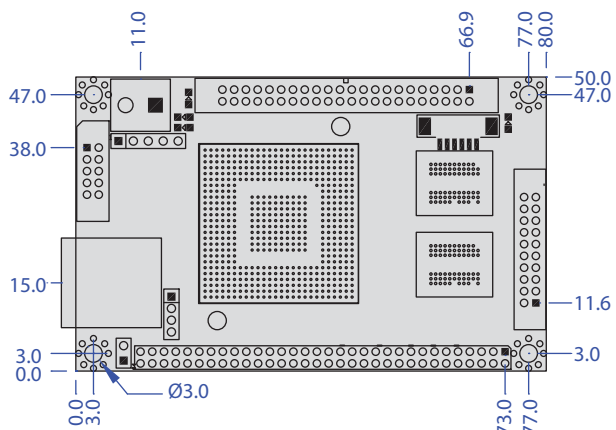
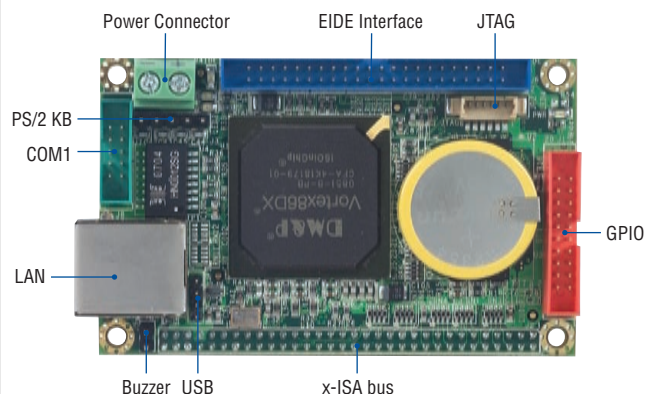
<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5 $\mu$ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	24~32 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x2
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 10pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x2 2.0mm 10-pin box header for RS-232 x2 2.0mm 2-pin header for Reset x1 2.0mm 2-pin header for Console redirection x1 2.54mm 5-pin box header for Keyboard x1 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 400mA
<b>Weight</b>	56g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6316 x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
PRINT (2.0) x1  
RS-232 (2.0) x2  
USB (2.0) x1  
GPIO (2.0) x2  
PS2 KB White x1

## Ordering information

- **VDX-6316** Vortex86DX Tiny CPU Module with 256MB DDR2
- **ICOP-2720** Tiny VGA/LCD Development Kit



Unit: mm

### Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5µ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 USB port (Ver2.0) x1 16-bit GPIO port x1 10/100Mbps Ethernet portx1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x1 2.54mm 5-pin header for Keyboard x1 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1
<b>Power Requirement</b>	Single Voltage +5V @ 320mA
<b>Weight</b>	42g
<b>Board Size</b>	80 x 50mm (3.14 x 1.96 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

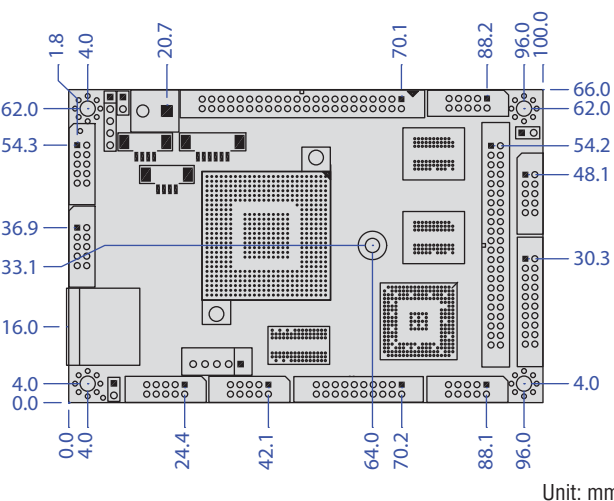
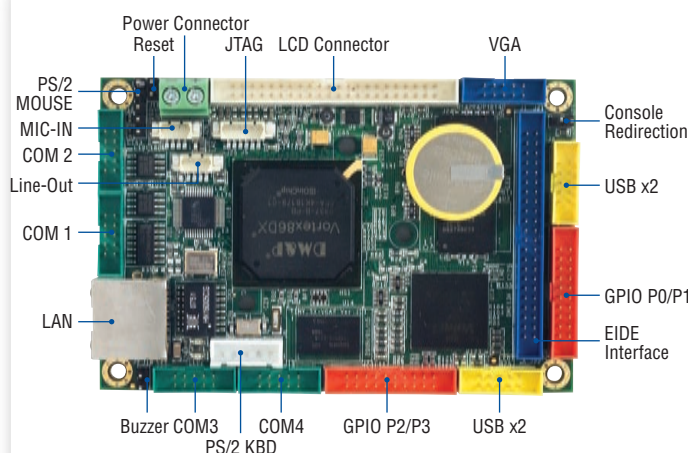
- VDX-6317-X x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
RS-232 (2.0) x1  
GPIO (2.0) x2  
PS2 KB Black x1

### Ordering information

- **VDX-6317-X** Vortex86DX Mity-Mite CPU Module with 256MB DDR2
- **ICOP-2820** Mity-Mite VGA/LCD Development Kit

- 1 µProcessor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information





## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5µ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x10240,16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB Audio controller
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	24~32 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/485 port x1 USB port (Ver2.0) x4 16-bit GPIO port x2 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 20-pin box header for 16-bit GPIO x2 2.0mm 10-pin box header for RS-232 x4 2.0mm 10-pin box header for USB x2 2.0mm 10-pin box header for VGA x1 2.0mm 44-pin box header for LCD x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 3-pin header for RS-485 x1 1.25mm 4-pin wafer for Line-out/MIC-in x2 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1

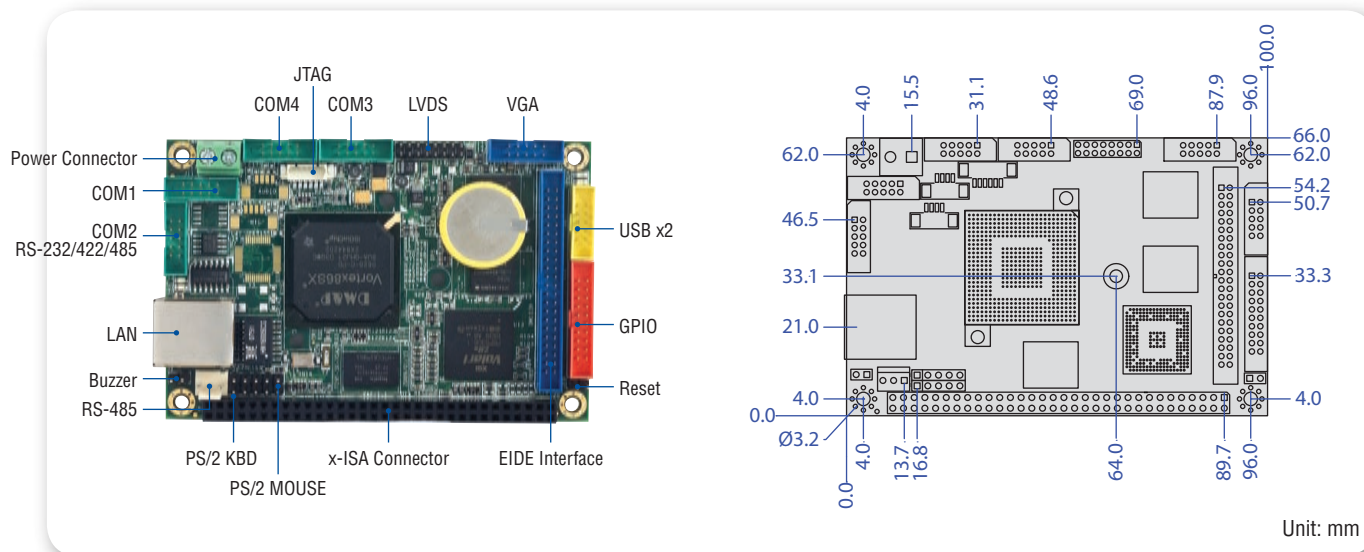
<b>Power Requirement</b>	Single Voltage +5V @ 700mA
<b>Weight</b>	63g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6318 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x2
  - GPIO (2.0) x2
  - Audio Line x2
  - PS2 KB White x1
  - PS2 Mouse Black x1

## Ordering information

- **VDX-6318** Vortex86DX Tiny CPU Module with 256MB DDR2



## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 10240, 16M colors
<b>LAN</b>	Integrated 10/100MB Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/485 port x1 USB port (Ver2.0) x2 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for VGA x1 2.0mm 16-pin header for LVDS x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 3-pin header for RS-485 x1 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1
<b>Power Requirement</b>	Single Voltage +5V @ 620mA
<b>Weight</b>	63g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)

<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)
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## Packing List

- VSX-6114-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x1
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1

## Ordering information

- VSX-6114-V2** Vortex86SX Tiny CPU Module with 128MB DDR2

1

μProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

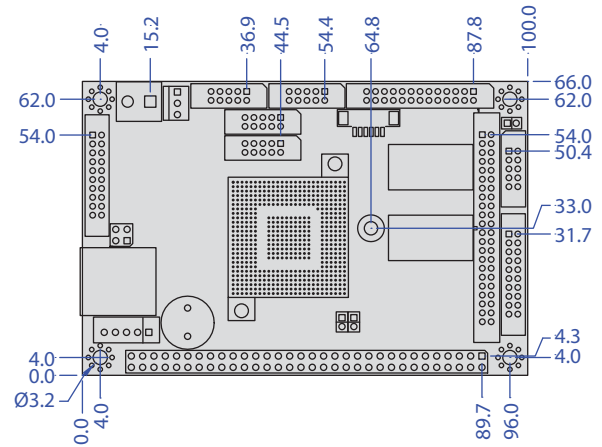
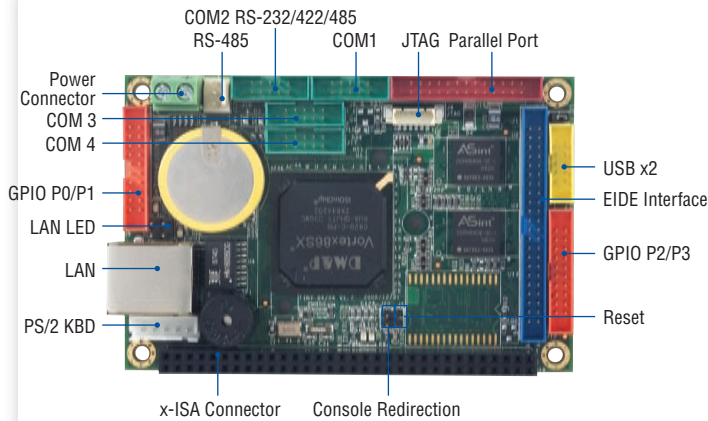
Peripheral Module

7

Display Product Series

8

Accessories & Technical Information



Unit: mm

## Specifications

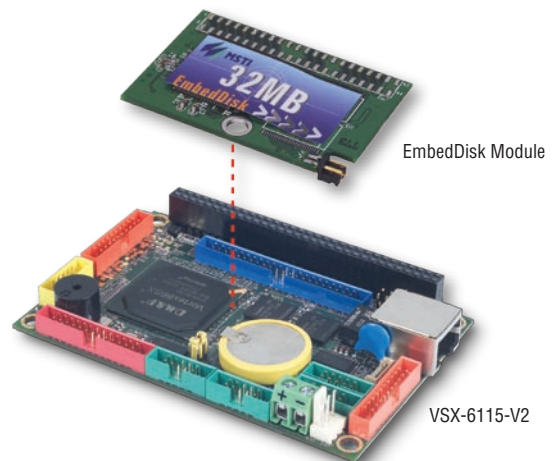
<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5 $\mu$ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x2 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x2 2.0mm 10-pin box header for RS-232 x4 2.0mm 10-pin box header for USB x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin box header for Mouse x1 2.54mm 3-pin header for RS-485 x1 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1
<b>Power Requirement</b>	Single Voltage +5V @ 400mA
<b>Weight</b>	63g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

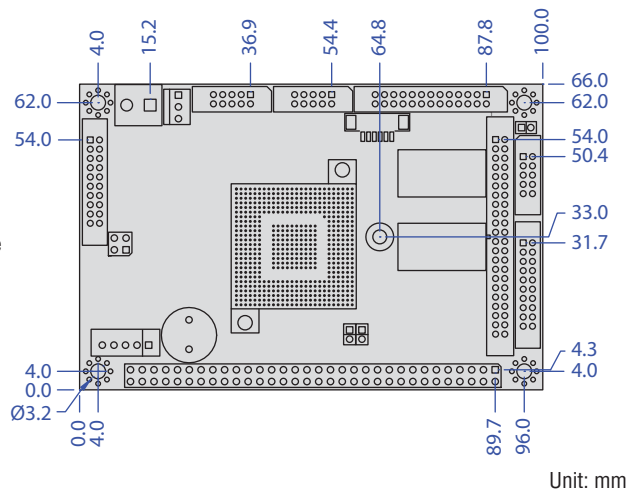
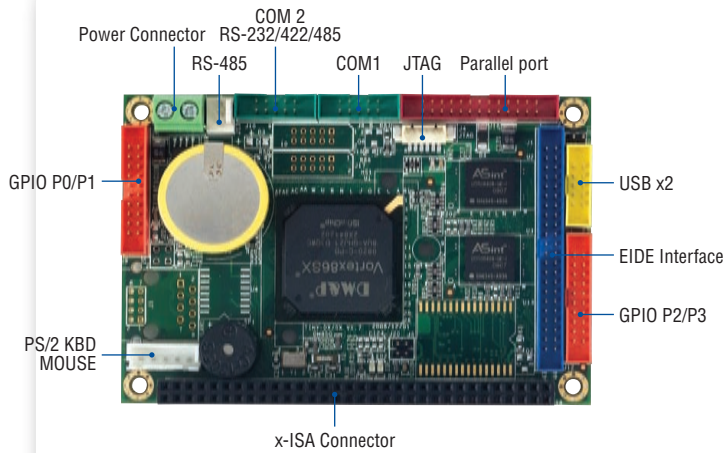
## Packing List

- VSX-6115-V2 x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
PRINT (2.0) x1  
RS-232 (2.0) x4  
USB (2.0) x1  
GPIO (2.0) x2  
PS2 KB White x1

## Ordering information

- **VSX-6115-V2** Vortex86SX Tiny CPU Module with 128MB DDR2
- **ICOP-2720** Tiny VGA/LCD Development Kit





### Specifications

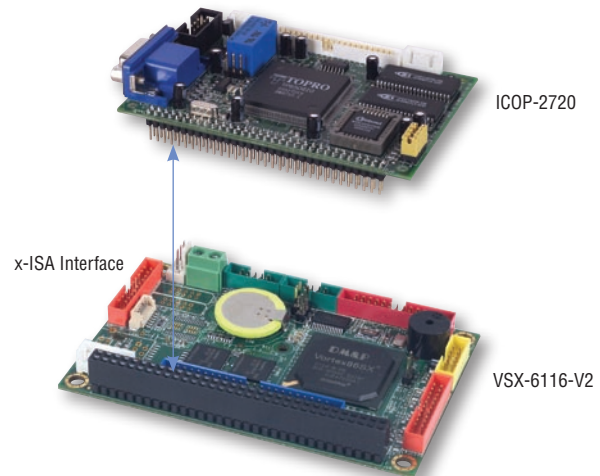
<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5µ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 RS-232/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x2
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x2 2.0mm 10-pin box header for RS-232 x2 2.0mm 10-pin box header for USB x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin box header for Mouse x1 2.54mm 3-pin header for RS-485 x1 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 320mA
<b>Weight</b>	56g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

- VSX-6116-V2 x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
PRINT (2.0) x1  
RS-232 (2.0) x2  
USB (2.0) x1  
GPIO (2.0) x2  
PS2 KB White x1

### Ordering information

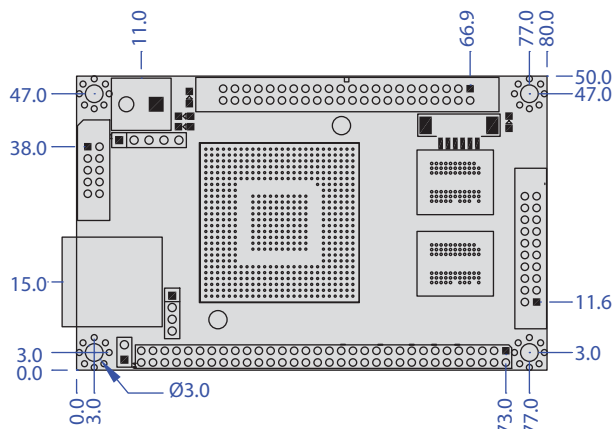
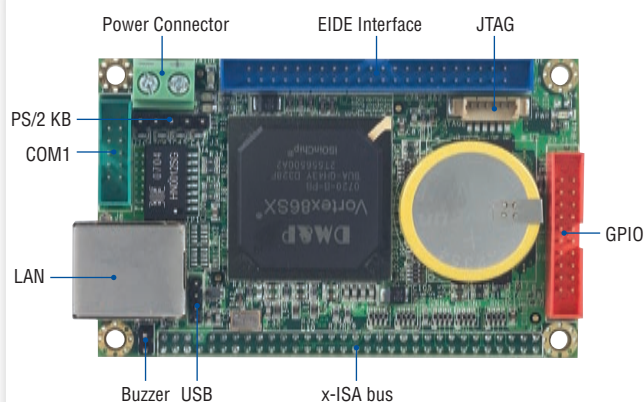
- VSX-6116-V2** Vortex86SX Tiny CPU Module with 128MB DDR2
- ICOP-2720** Tiny VGA/LCD Development Kit



VGA function support via x-ISA interface

- 1 µProcessor Module
- 2 Mighty/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information





\*Compatible with ICOP-6017-X

Unit: mm

## Specifications

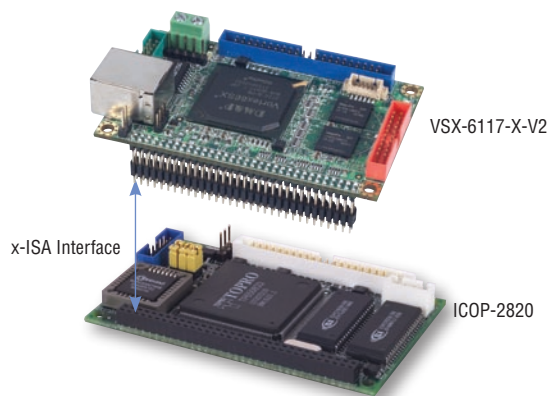
<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	16-bit x-ISA interface
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5 $\mu$ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x1 2.0mm 4-pin header for USB x1 2.54mm 5-pin header for Keyboard x1 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1
<b>Power Requirement</b>	Single Voltage +5V @ 280mA
<b>Weight</b>	42g
<b>Board Size</b>	80 x 50mm (3.14 x 1.96 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

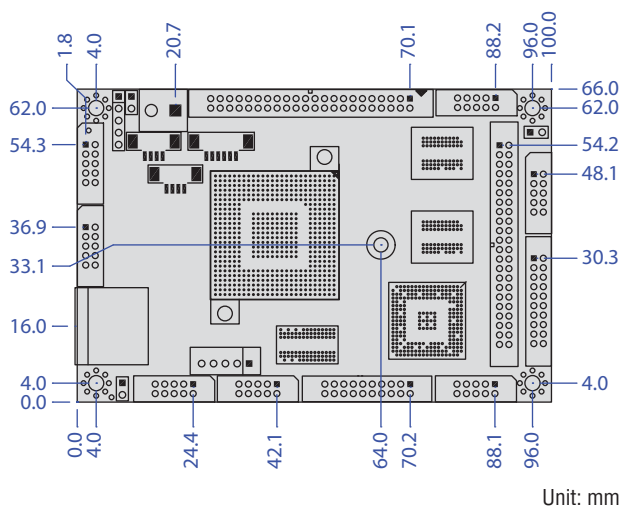
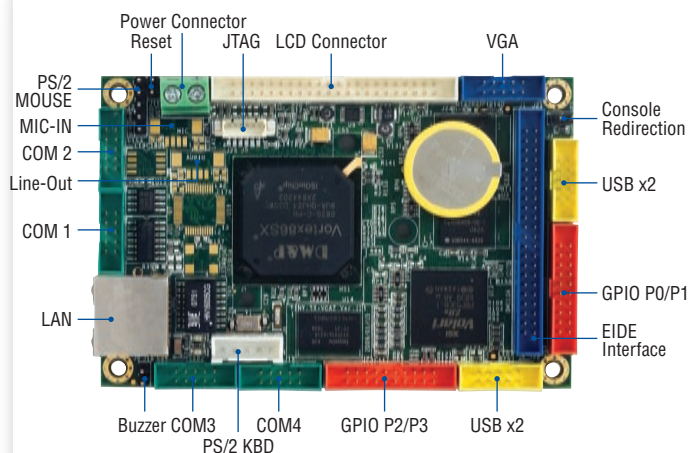
- VSX-6117-X-V2 x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
RS-232 (2.0) x1  
GPIO (2.0) x1  
PS2 KB Black x1

## Ordering information

- **VSX-6117-X-V2** Vortex86SX Mity-Mite CPU Module with 128MB DDR2
- **ICOP-2820** Mity-Mite VGA/LCD Development Kit



VGA function support via x-ISA interface



## Specifications

SoC	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
Cache	L1:16K I-Cache, 16K D-Cache
BIOS	AMI BIOS
System Memory	128/256MB DDR2 Onboard
Watchdog Timer 0 & 1 Sets	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
VGA	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
LAN	Integrated 10/100Mbps Ethernet
Flash Disk Support	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
I/O Interface	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/485 port x1 USB port (Ver2.0) x4 16-bit GPIO port x2 10/100Mbps Ethernet port x1
Connectors	2.0mm 44-pin box header for IDE x1 2.0mm 20-pin box header for 16-bit GPIO x2 2.0mm 10-pin box header for RS-232 x4 2.0mm 10-pin box header for USB x2 2.0mm 10-pin box header for VGA x1 2.0mm 44-pin box header for LCD x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 3-pin header for RS-485 x1 1.25mm 6-pin wafer for JTAG x1 External RJ-45 connector for Ethernet x1
Power Requirement	Single Voltage +5V @ 620mA
Weight	60g
Board Size	100 x 66mm (3.94 x 2.6 inches)

Operating Temperature	-20°C ~ +70°C -40°C ~ +85°C (Optional)
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## Packing List

- VSX-6118-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x2
  - GPIO (2.0) x2
  - PS2 KB White x1
  - PS2 Mouse Black x1

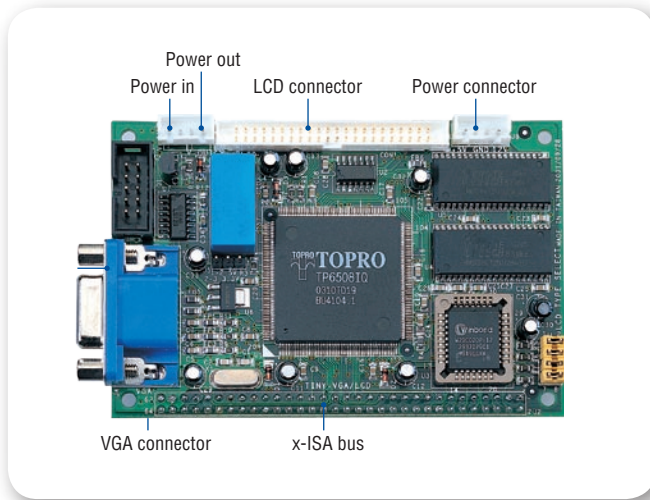
## Ordering information

- **VSX-6118-V2** Vortex86SX Tiny CPU Module with 128MB DDR2

1	μProcessor Module
2	Mity/Tiny CPU Module
3	PC/104 CPU Module
4	Half-Size CPU Module
5	3.5" CPU Module
6	Peripheral Module
7	Display Product Series
8	Accessories & Technical Information

# ICOP-2720

## Tiny VGA/LCD Development Kit



### Specifications

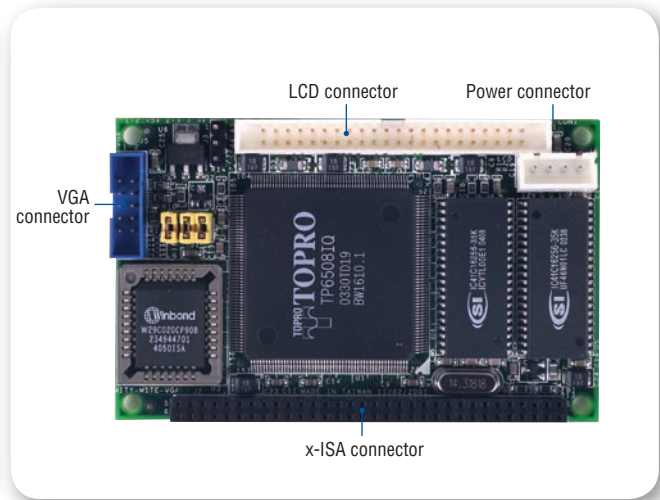
<b>Chipset</b>	TOPRO TP65081Q VGA and Mono/STN/DSTN/TFT Flat Panel interface support
<b>Bus</b>	16-bit x-ISA interface
<b>VGA Memory</b>	Onboard 1MB EDO RAM, support resolution up to 1024 x 768, 256 colors
<b>Connectors</b>	2.0mm 44-pin box header for LCD x1 2.54mm 10-pin box header for VGA x1 2.54mm 4-pin wafer for +12V, -12V, -5V DC-in x1 2.54mm 4-pin wafer for internal relay x1 External 15-pin D-Sub Female connector for VGA x1
<b>Power Requirement</b>	Single Voltage +5V @ 200mA
<b>Weight</b>	32g
<b>Board Size</b>	100 x 66mm (3.94 x 2.6 inches)
<b>Operating Temperature</b>	-20°C ~ +60°C

### Packing List

- ICOP-2720 x1

# ICOP-2820

## Mity-Mite VGA/LCD Development Kit



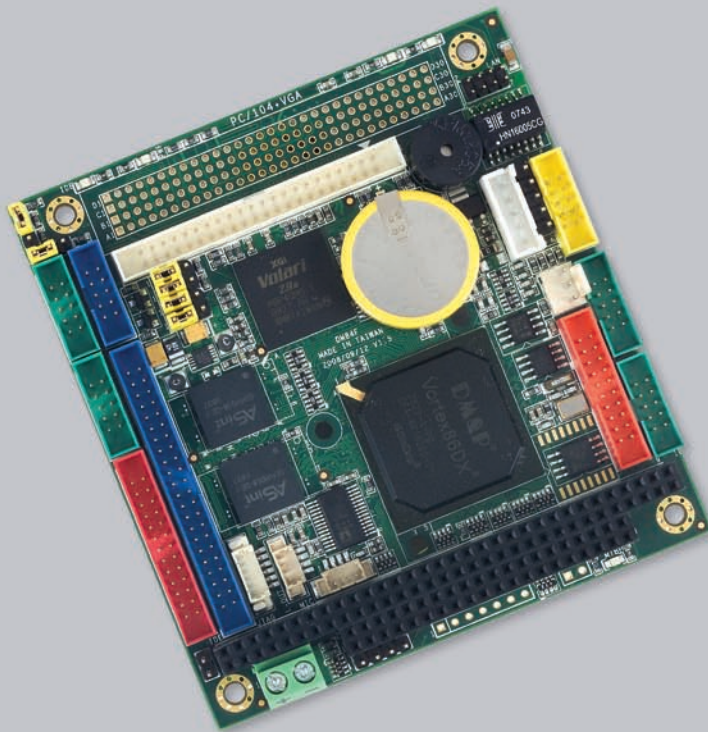
### Specifications

<b>Chipset</b>	TOPRO TP65081Q VGA and Mono/STN/DSTN/TFT Flat Panel interface support
<b>Bus</b>	16-bit x-ISA interface
<b>VGA Memory</b>	Onboard 1MB EDO RAM, support resolution up to 1024 x 768, 256 colors
<b>Connectors</b>	2.0mm 64-pin socket for 16-bit x-ISA interface x1 2.0mm 44-pin box header for LCD x1 2.0mm 10-pin box header for VGA x1 2.54mm 4-pin wafer for +12V, -12V, -5V DC-in x1
<b>Power Requirement</b>	Single Voltage +5V @ 200mA
<b>Weight</b>	32g
<b>Board Size</b>	80 x 50mm (3.14 x 1.96 inches)
<b>Storage Temperature</b>	-20°C ~ +60°C

### Packing List

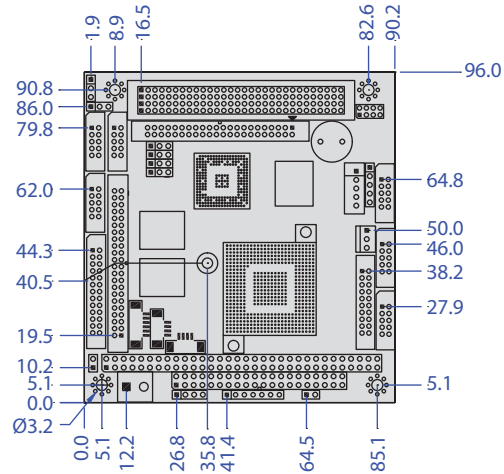
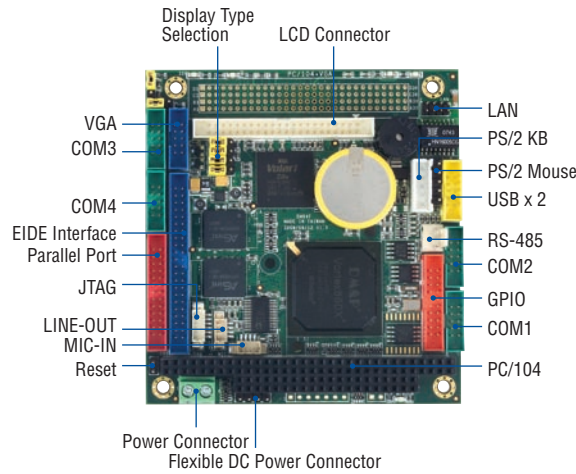
- ICOP-2820 x1
- Cable  
VGA (2.0) x1

# P provide wide range from 486 to Pentium level with minimum power requirement and wide operating temperature. C/104 CPU Module



VDX-6354	Vortex86DX PC/104 CPU Module 256MB/4S/2USB/VGA/LCD/AUDIO/LAN/GPIO/PWMx16 .....	54
VDX-6350E	Vortex86SX PC/104 CPU Module 256MB/4S/2USB/LAN/GPIO/PWMx16 .....	55
VDX-6357	Vortex86DX PC/104 CPU Module 256MB/4S/2USB/VGA/LCD/3LAN/GPIO/PWMx16 .....	56
VDX-6356	Vortex86DX PC/104 CPU Module 256MB/4S/2USB/3LAN/GPIO/PWMx16 .....	57
VDX-6356-L4	Vortex86DX PC/104 CPU Module 256MB/2S/2USB/4LAN/GPIO/PWMx16 .....	58
VDX-6351	Vortex86DX PC/104 CPU Module 256MB/4S/2USB/VGA/LCD/LAN/GPIO/FDD/PWMx16 .....	59
VDX-6372	Vortex86DX PC/104 CPU Module 600MHz 128MB/2S/2USB/VGA/LCD/GPIO/PWMx16 .....	60
VSX-6154-V2	Vortex86SX PC/104 CPU Module 128MB/4S/2USB/VGA/LCD/LAN/GPIO .....	61
VSX-6150-V2	Vortex86SX PC/104 CPU Module 128MB/2S/2USB/GPIO .....	62
VSX-6150E-V2	Vortex86SX PC/104 CPU Module 128MB/4S/2USB/LAN/GPIO .....	63
VSX-6155-V2	Vortex86SX PC/104 CPU Module 128MB/4S/2USB/VGA/LCD/AUDIO/LAN/GPIO .....	64
VSX-6157-V2	Vortex86SX PC/104 CPU Module 128MB/4S/2USB/VGA/LCD/3LAN/GPIO .....	65
VSX-6156-V2	Vortex86SX PC/104 CPU Module 128MB/4S/2USB/3LAN/GPIO .....	66





Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant PC-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5μ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB audio controller
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 10-pin box header for VGA x1 2.0mm 10-pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V +12V, GND x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1 1.25mm 4-pin wafer for Line-out/MIC-in x2

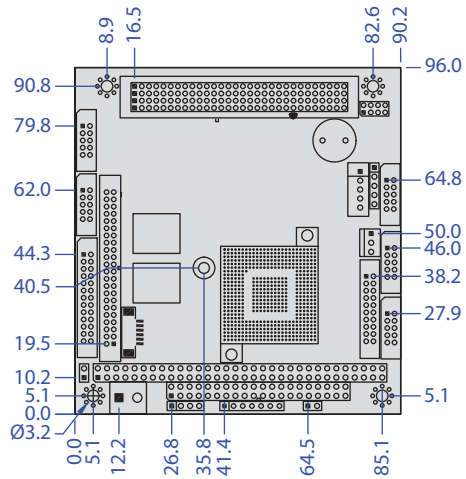
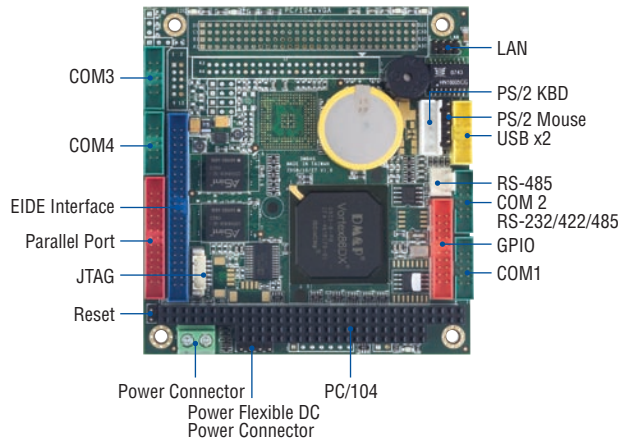
<b>Power Requirement</b>	Single Voltage +5V @ 740mA
<b>Weight</b>	90g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20 °C ~ +70 °C -40 °C ~ +85 °C (Optional)

## Packing List

- VDX-6354 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x1
  - NET 4 x 2 (2.0) x1
  - GPIO (2.0) x1
  - Audio Line x2
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VDX-6354** Vortex86DX PC/104 CPU Module with 256MB DDR2
- **VDX-6354-PLUS** Vortex86DX PC/104+ CPU Module with 256MB DDR2
- **VDX-6354-512** Vortex86DX PC/104 CPU Module with 512MB DDR2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant PC-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5μ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 520mA
<b>Weight</b>	77g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)

<b>Operating Temperature</b>	-20°C ~ +70°C
<b>Temperature</b>	-40°C ~ +85°C (Optional)

## Packing List

- VDX-6350E x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x1
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information:

- **VDX-6350E** Vortex86DX PC/104 CPU Module with 256MB DDR2
- **VDX-6350E-PLUS** Vortex86DX PC/104+ CPU Module with 256MB DDR2
- **VDX-6350E-512** Vortex86DX PC/104 CPU Module with 512MB DDR2

1

μProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

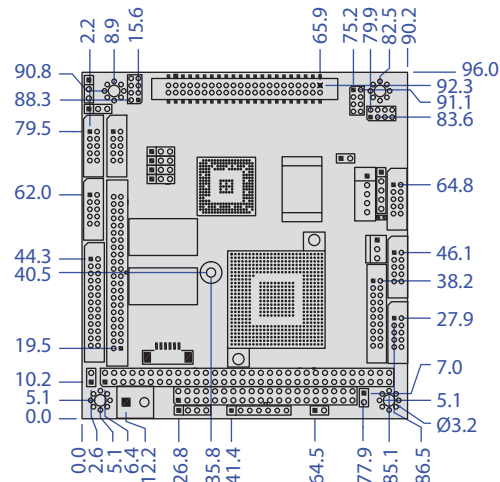
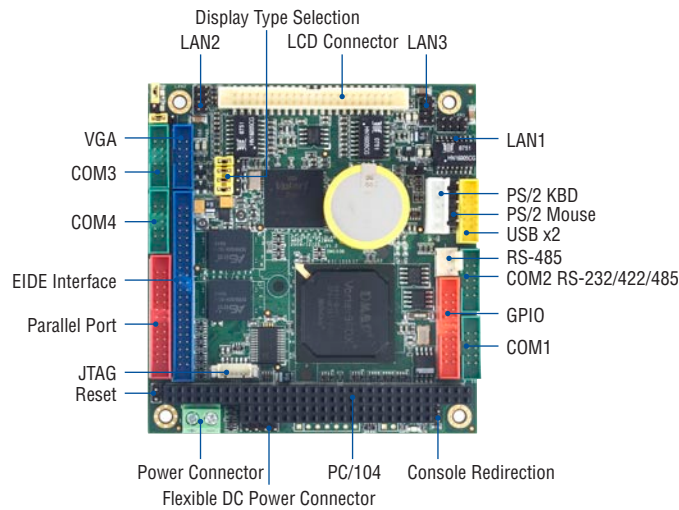
Peripheral Module

7

Display Product Series

8

Accessories & Technical Information



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5μ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet Realtek 8100B 10/100Mbps Ethernet Controller Half/Full duplex capability
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x3
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 10-pin box header for VGA x1 2.0mm 10-pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x3 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1(Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @800mA
<b>Weight</b>	90g

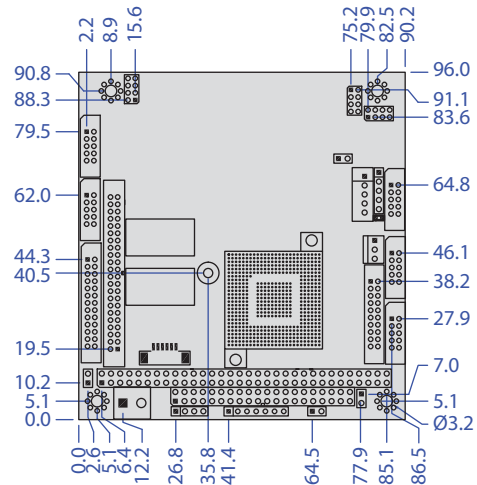
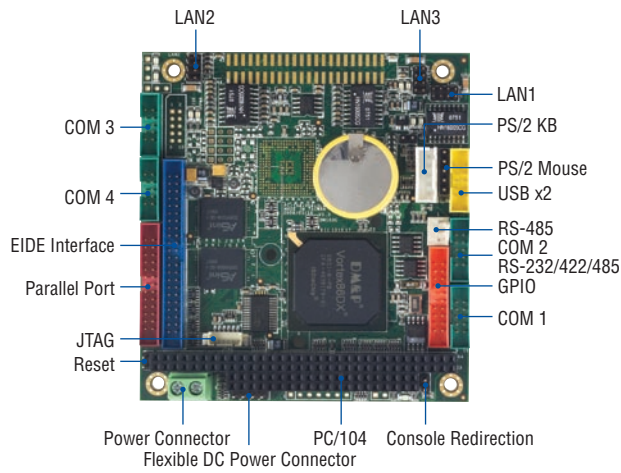
<b>Board Size</b>	90 X 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6357 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x3
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VDX-6357** Vortex86DX PC/104 CPU Module with 256MB DDR2
- **VDX-6357-512** Vortex86DX PC/104 CPU Module with 512MB DDR2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5µsec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet Realtek 8100B 10/100Mbps Ethernet Controller Half/Full duplex capability
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x3
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 10-pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x3 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V +12V,GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1(Optional) 2.54mm 2-pin header for System-Fail-SW x1(Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 620mA
<b>Weight</b>	84g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)

<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)
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## Packing List

- VDX-6356 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x3
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VDX-6356** Vortex86DX PC/104 CPU Module with 256MB DDR2
- **VDX-6356-512** Vortex86DX PC/104 CPU Module with 512MB DDR2

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

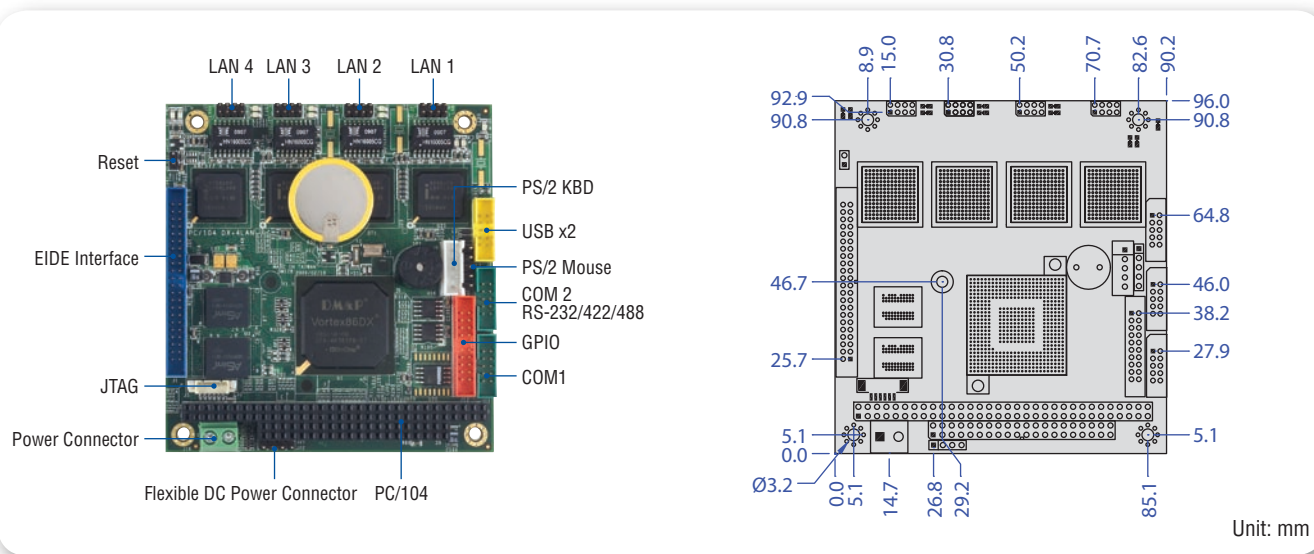
7

Display Product Series

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Accessories & Technical Information





### Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5µsec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Intel 8255ER 10/100Mbps Ethernet Controller Half/Full duplex capability
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 RS-232/422/485 port x1 USB port (Ver.2.0) x2 16-bit GPIO port x1 10/100Mbps Ethernet port x4
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 10-pin box header for USB x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x2 2.0mm 8-pin header for Ethernet x4 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V +12V, GND, DC-in x1 2.54mm 2-pin header for Reset x1 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 800mA
<b>Weight</b>	90g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)

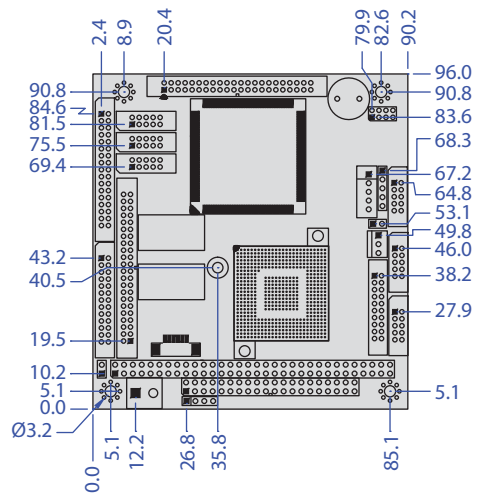
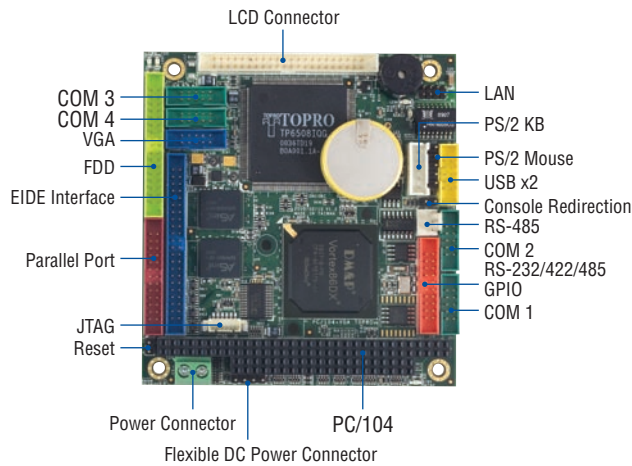
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)
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### Packing List

- VDX-6356-L4 x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
RS-232 (2.0) x2  
NET 4x2 (2.0) x4  
GPIO (2.0) x1  
PS2 KB White x1  
PS2 Mouse Black x1
- Screw Kit x1

### Ordering information

- **VDX-6356-L4** Vortex86DX PC/104 CPU Module with 256MB DDR2



## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets ( Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	TOPRO TP6508IQ Chipset VGA and Mono/STN/DSTN/TFT Flat Panel interface support Onboard 1MB VGA Memory, support resolution up to 1024x768, 256 colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>SRAM Support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 FDD x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 10-pin box header for VGA x1 2.0mm 34-pin box header for FDD x1 2.0mm 10-pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 1.25mm 6-pin wafer for JTAG x1

<b>Power Requirement</b>	Single Voltage +5V @ 720mA
<b>Weight</b>	100g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6351 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - FDD (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x1
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VDX-6351** Vortex86DX PC/104 CPU Module with 256MB DDR2

1

μProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Hall-Size CPU Module

5

3.5" CPU Module

6

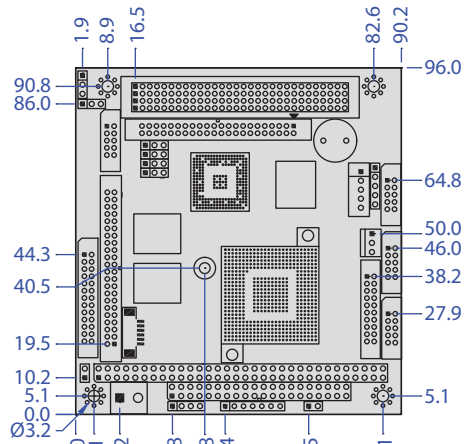
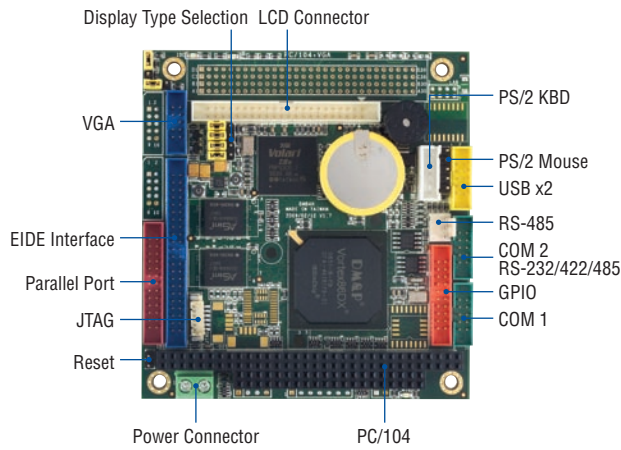
Peripheral Module

7

Display Product Series

8

Accessories & Technical Information



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 600MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant PC-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x1024, 16M colors
<b>Flash Disk Support</b>	MSTI EmbedDisk Module (16MB and above) 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for VGA x1 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for RS-232 x2 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 600mA
<b>Weight</b>	80g

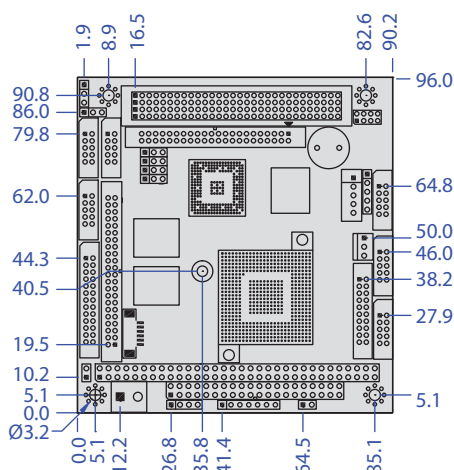
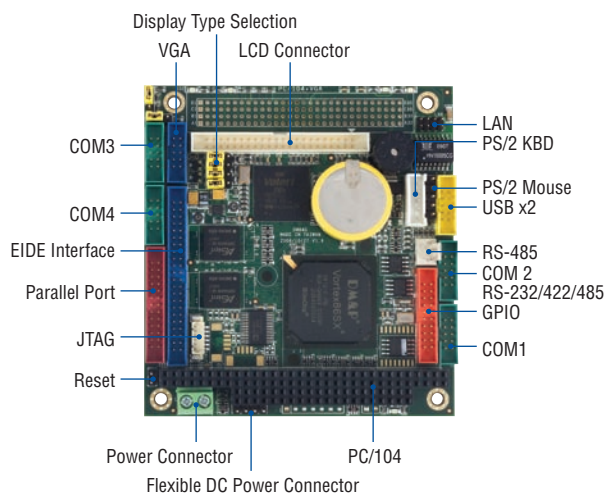
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6372 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x2
  - USB (2.0) x1
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VDX-6372** Vortex86DX PC/104 CPU Module with 128MB DDR2
- **VDX-6372-PLUS** Vortex86DX PC/104+ CPU Module with 128MB DDR2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant PCI-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5µ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for VGA x1 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 4-pin header for -5V, -12V, +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1

<b>Power Requirement</b>	Single Voltage +5V @ 720mA
<b>Weight</b>	83g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

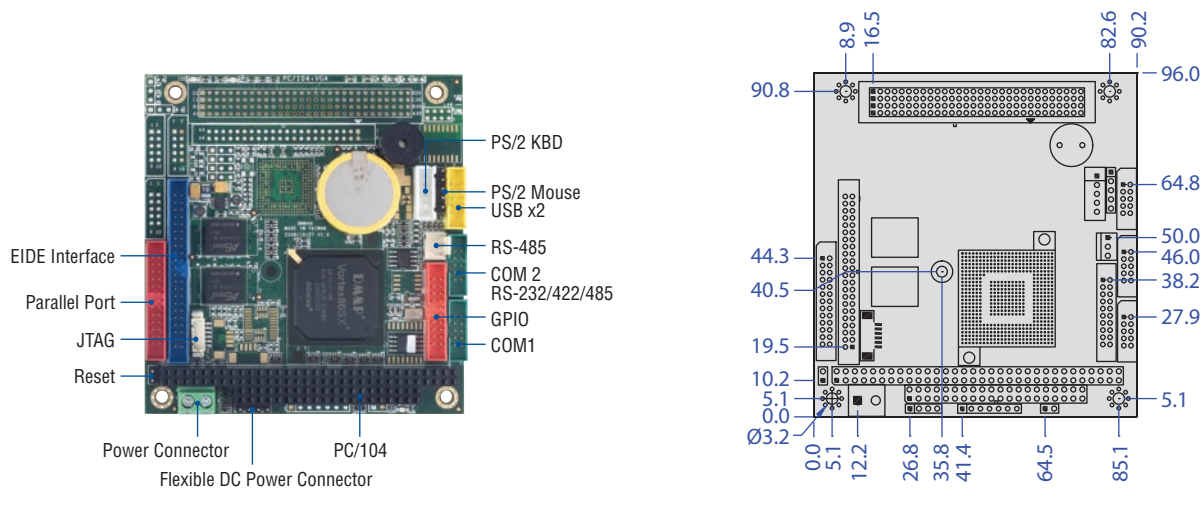
- VSX-6154-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - USB (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x1
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- VSX-6154-V2** Vortex86SX PC/104 CPU Module with 128MB DDR2
- VSX-6154-V2-PLUS** Vortex86SX PC/104+ CPU Module with 128MB DDR2

- 1 µProcessor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information





Unit: mm

## Specifications

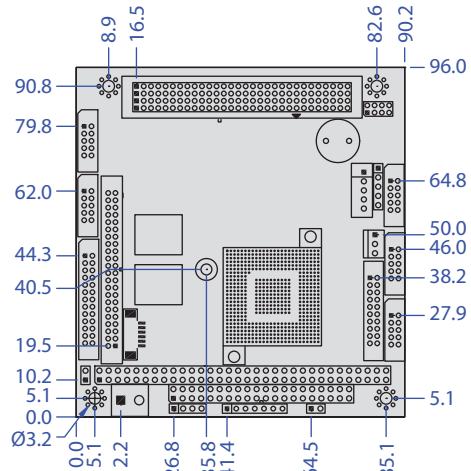
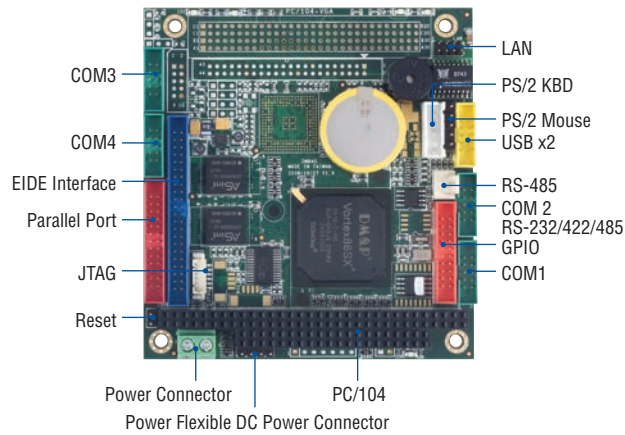
<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant PCI-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x1 RS-232/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10pin box header for USB x1 2.0mm 10-pin box header for RS-232 x2 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin box header for Mouse x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 4-pin header for -5V, -12V, +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 320mA
<b>Weight</b>	75g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-6150-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - USB (2.0) x1
  - PRINT (2.0) x1
  - RS-232 (2.0) x2
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VSX-6150-V2** Vortex86SX PC/104 CPU Module with 128MB DDR2
- **VSX-6150-V2-PLUS** Vortex86SX PC/104+ CPU Module with 128MB DDR2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant PCI-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin box header for Mouse x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 4-pin header for -5V, -12V, +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 400mA
<b>Weight</b>	77g

<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-6150E-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - USB (2.0) x1
  - PRINT (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x1
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- **VSX-6150E-V2** Vortex86SX PC/104 CPU Module with 128MB DDR2
- **VSX-6150E-V2-PLUS** Vortex86SX PC/104+ CPU Module with 128MB DDR2

1

μProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Hall-Size CPU Module

5

3.5" CPU Module

6

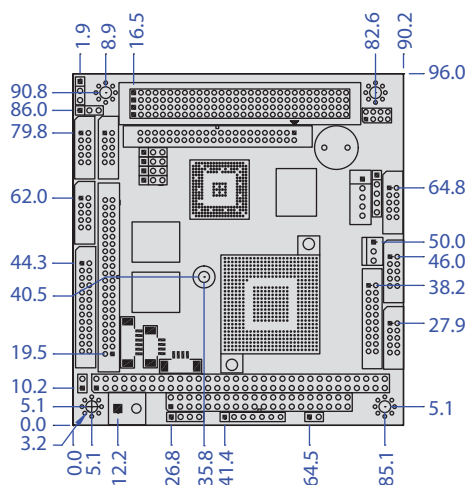
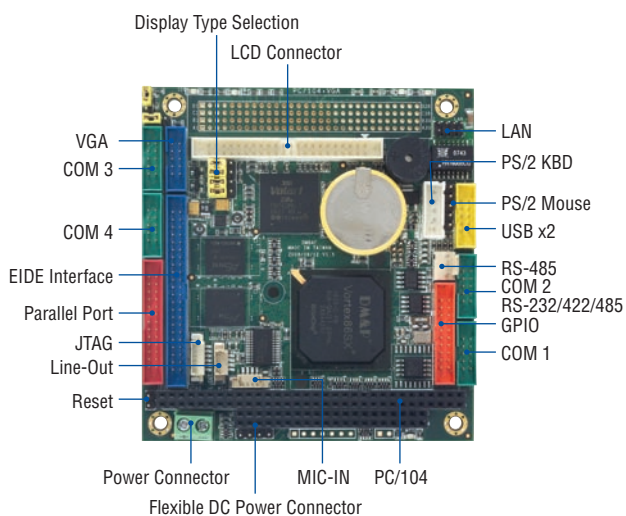
Peripheral Module

7

Display Product Series

8

Accessories & Technical Information



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant PC-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5 $\mu$ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB Audio controller
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 10pin box header for VGA x1 2.0mm 10pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x1 2.54mm 5-pin box header for Keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1 1.25mm 4-pin wafer for Line-out/MIC-in x2

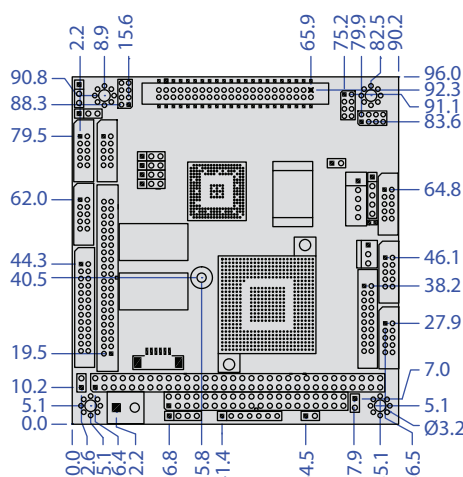
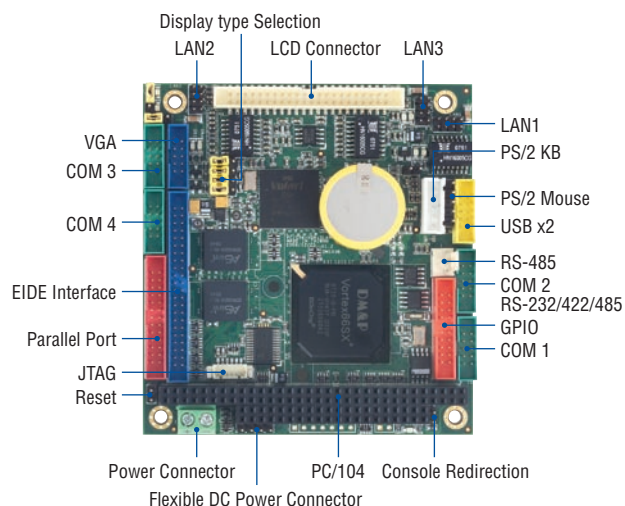
<b>Power Requirement</b>	Single Voltage +5V @ 740mA
<b>Weight</b>	90g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-6155-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - USB (2.0) x1
  - NET 4x2 (2.0) x1
  - GPIO (2.0) x1
  - Audio Line x2
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information:

- **VSX-6155-V2** Vortex86SX PC/104 CPU Module with 128MB DDR2
- **VSX-6154-V2-PLUS** Vortex86SX PC/104+ CPU Module with 128MB DDR2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT/LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet Realtek 8100B 10/100Mbps Ethernet Controller Half/Full Duplex Capability
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x3
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 10pin box header for VGA x1 2.0mm 10pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x3 2.5mm 5-pin box header for Keyboard x1 2.5mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V, +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1

<b>Power Requirement</b>	Single Voltage +5V @ 680mA
<b>Weight</b>	90g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

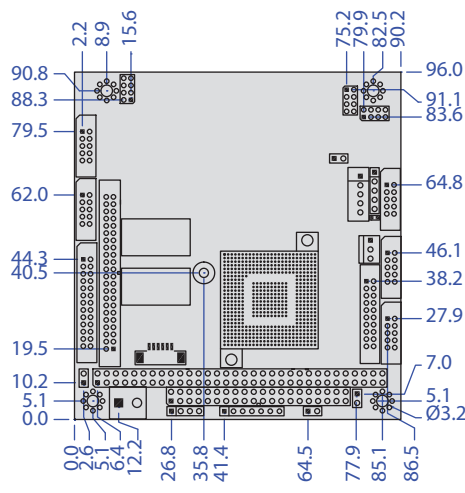
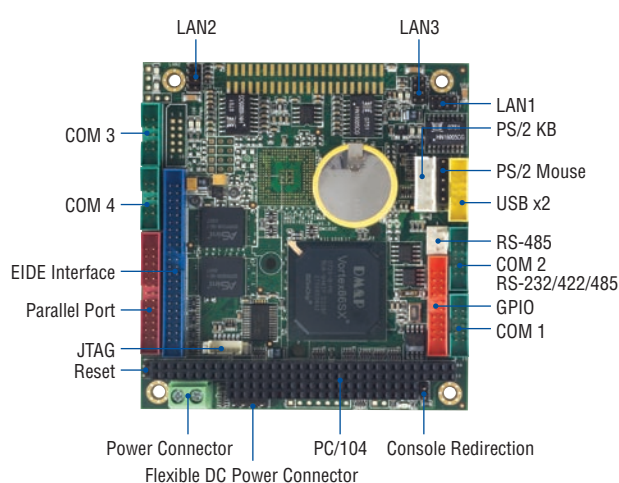
- VSX-6157-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - VGA (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x3
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

- VSX-6157-V2** Vortex86SX PC/104 CPU Module with 128MB DDR2

- 1 μProcessor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information





Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>LAN</b>	Integrated 10/100Mbps Ethernet Realtek 8100B 10/100Mbps Ethernet Controller Half/Full Duplex Capability
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MST1 EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver2.0) x2 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x3
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 10pin box header for USB x1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x4 2.0mm 8-pin header for Ethernet x3 2.5mm 5-pin box header for Keyboard x1 2.5mm 5-pin header for Mouse x1 2.54mm 4-pin header for -5V, -12V, +12V, GND, DC-in x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1
<b>Power Requirement</b>	Single Voltage +5V @ 490mA
<b>Weight</b>	84g

<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

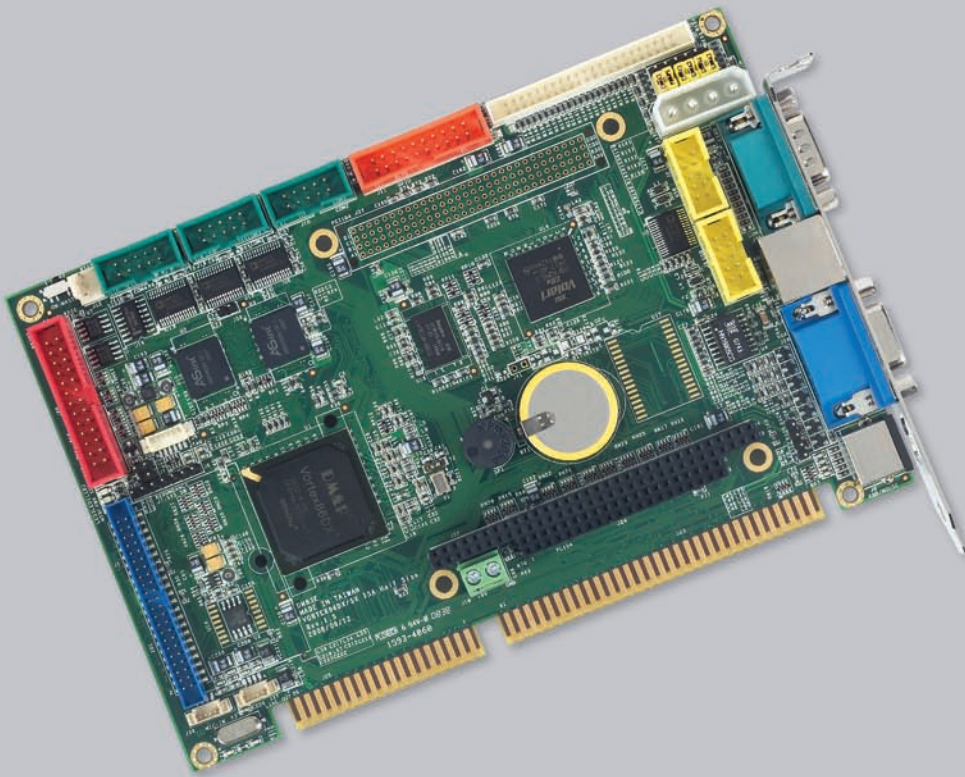
- VSX-6156-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.0) x1
  - RS-232 (2.0) x4
  - NET 4x2 (2.0) x3
  - GPIO (2.0) x1
  - PS2 KB White x1
  - PS2 Mouse Black x1
- Screw Kit x1

## Ordering information

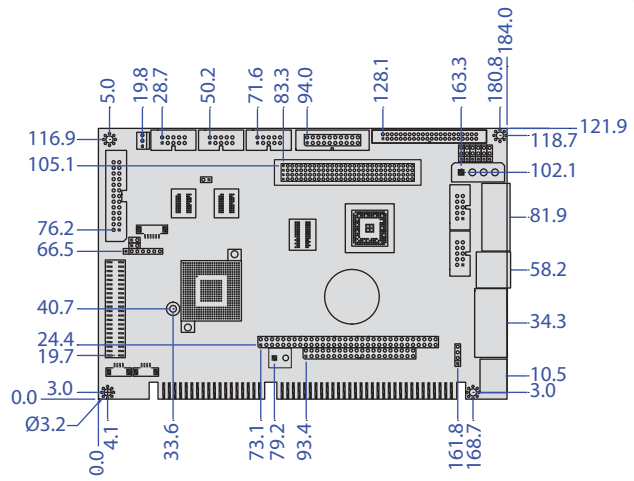
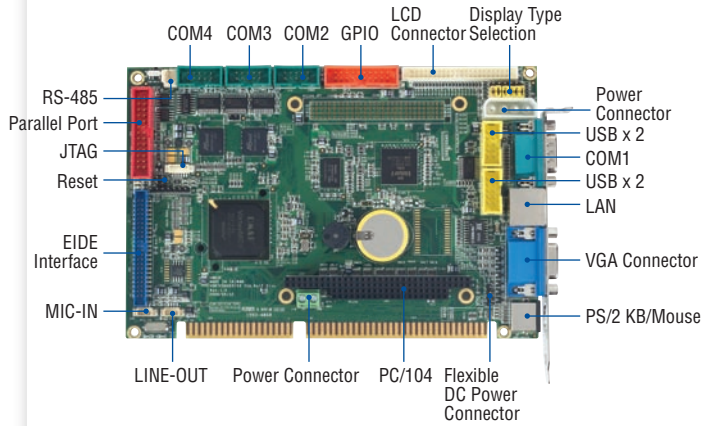
- **VSX-6156-V2** Vortex86SX PC/104 CPU Module with 128MB DDR2

are designed to include industry-standard ISA gold fingers and PC/104 for easy expansion as industrial control system.

# Half-Size CPU Module



VDX-6324	Vortex86DX Half-Size CPU Module 256MB/4S/4USB/VGA/LCD/LAN/GPIO/CF/PWMx16 ...	68
VSX-6124-V2	Vortex86SX Half-Size CPU Module 128MB/4S/4USB/VGA/LCD/LAN/GPIO/CF .....	69
VSX-6121-V2	Vortex86SX Half-Size CPU Module 128MB/2S/4USB/GPIO .....	70



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache, L2 Cache 128 KB
<b>Bus</b>	PC/104 standard compliant PC-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 Onboard
<b>Watchdog Timer</b>	Software programmable from 30.5 $\mu$ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB Audio Controller (Optional)
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MST1 EmbedDisk Module (16MB and above) Compact Flash Type I/II 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16-24 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x3 RS-232/422/485 port x1 USB port (Ver.2.0) x4 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.54mm 26-pin box header for Printer x1 2.54mm 20-pin box header for 16-bit GPIO x1 2.54mm 10-pin box header for RS-232 x3 2.54mm 10-pin box header for USB x2 2.54mm 4-pin header for -5V, -12V, +12V, GND x1 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 1.25mm 6-pin wafer for JTAG x1 1.25mm 4-pin wafer for Line-out/MIC-in x2 (Optional) 4-pin male power connector x1 External 15-pin D-Sub female connector for VGA x1 External 9-pin D-Sub male connector for RS-232 x1 External RJ-45 connector for Ethernet x1 External Mini DIN connector for Keyboard/Mouse x1 Type I/II Compact Flash Slot x1
<b>Power Requirement</b>	Single Voltage +5V @ 760mA

<b>Weight</b>	180g
<b>Board Size</b>	184 x 122mm (7.24 x 4.80 inches)
<b>Operating Temperature</b>	-20 °C ~ +70 °C -40 °C ~ +85 °C (Optional)

## Packing List

- VDX-6324 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - PRINT (2.54) x1
  - USB (2.54) x2
  - GPIO (2.54) x1
  - RS-232 (2.54) x3
  - YKB x1

## Ordering information

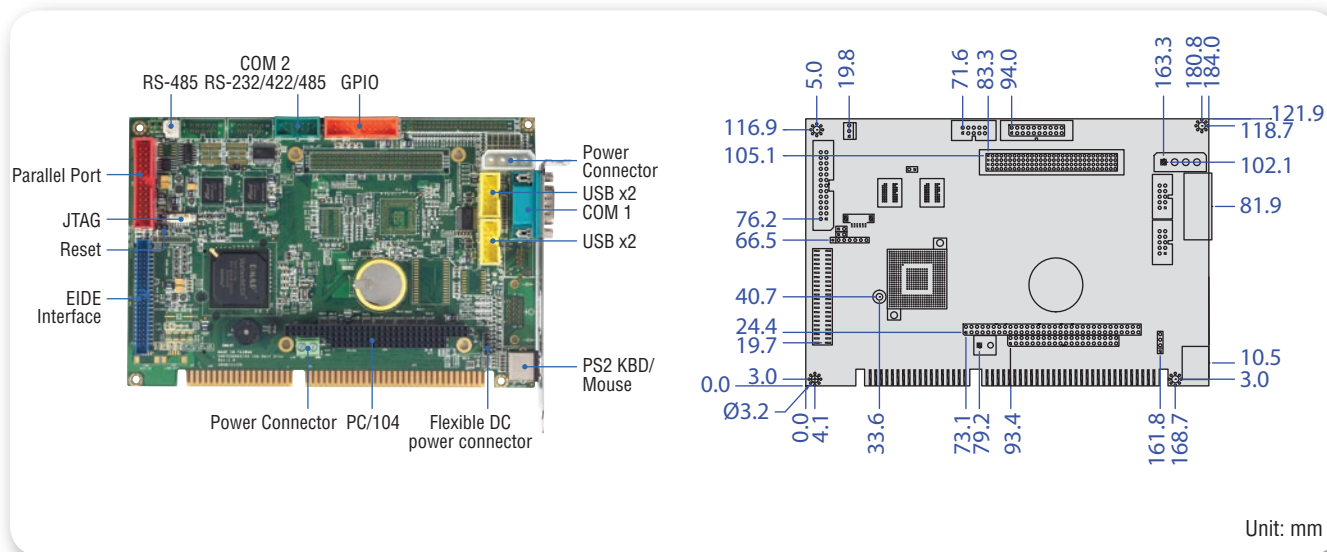
- **VDX-6324** Vortex86DX Half-Size CPU Module with 256MB DDR2



Compact Flash Type I/II







## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104 standard compliant PCI-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 RS-232 port x 1 RS-232/485 port x1 USB port (Ver2.0) x4 Parallel port x1 16-bit GPIO port x1
<b>Connectors</b>	2.54mm 40-pin box header for IDE x1 2.54mm 26-pin box header for Printer x1 2.54mm 20-pin box header for 16-bit GPIO x1 2.54mm 10-pin box header for RS-232 x1 2.54mm 10-pin box header for USB x2 2.54mm 7-pin header for Redundancy Signal x1 (Optional) 2.54mm 3-pin header for RS-485 x1 2.54mm 2-pin header for System-Fail-SW x1 (Optional) 2.54mm 4-pin header for -5V, -12V, +12V, GND, DC-in x1 1.25mm 6-pin wafer for JTAG x1 4-pin male power connector x1 External 9-pin D-Sub male connector for RS-232 x1 External Mini DIN connector for Keyboard/Mouse x1
<b>Power Requirement</b>	Single Voltag +5V @ 360mA
<b>Weight</b>	156g
<b>Board Size</b>	184 x 122mm (7.24 x 4.80 inches)

<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)
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## Packing List

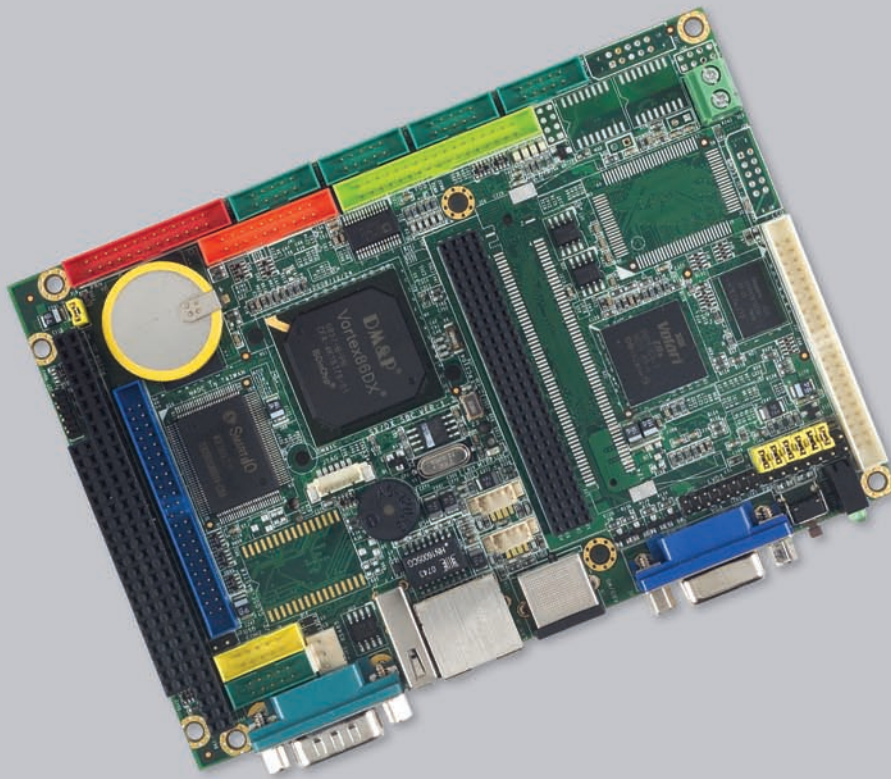
- VSX-6121-V2 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 40P (2.54) x1
  - PRINT (2.54) x1
  - USB (2.54) x2
  - GPIO (2.54) x1
  - RS-232 (2.54) x1
  - YKB x1

## Ordering information

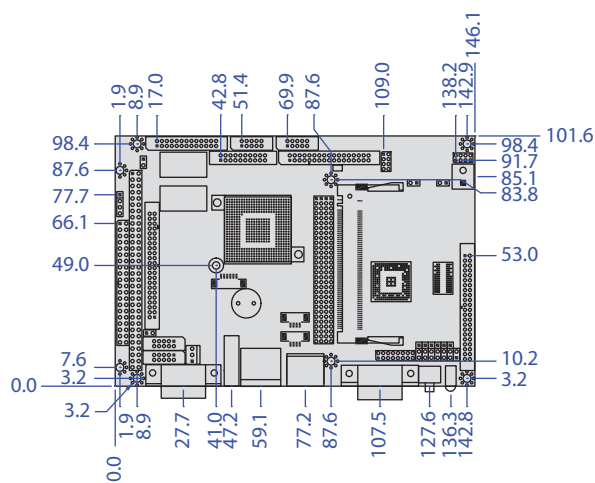
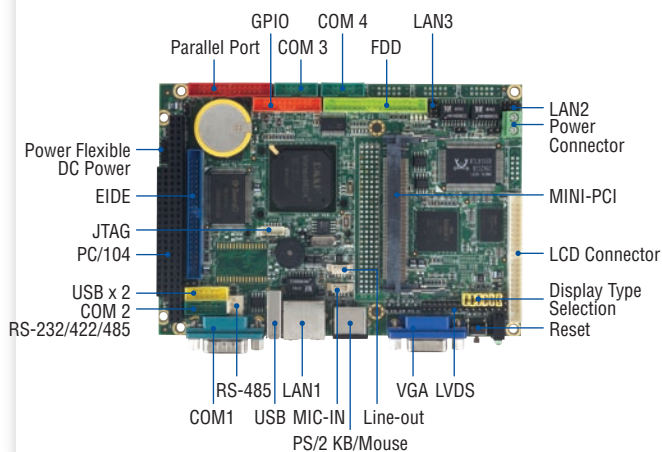
- **VSX-6121-V2** Vortex86SX Half-Size CPU Module with 128MB DDR2

## 3.5" CPU Module

support 486 to Pentium level with fanless, low power consumption, and wide operating temperature.



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Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant PC-104, PC/104+ (Optional)
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 On board
<b>Watchdog Timer</b>	Software programmable from 30.5µ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT/LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet Realtek 8100B 10/100Mbps Ethernet Controller Half/Full duplex capability
<b>Audio</b>	CM119 USB Audio controller
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MST1 EmbedDisk Module (16MB and above) Compact Flash Type I/II 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16-24 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 FDD x 1 RS-232 port x3 RS-232/422/485 port x1 USB port (2.0) x3 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x3
<b>Connectors</b>	2.54mm 4-pin header for +12V, -12V, -5V, GND x 1 2.54mm 2-pin header for Reset x1 2.54mm 3-pin header for RS-485 x1 2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 34-pin box header for FDD x 1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x3 2.0mm 10-pin box header for USB x1 2.0mm 8-pin header for Ethernet x2 1.25mm 6-pin wafer for JTAG x1 1.25mm 4-pin wafer for Line-out/MIC-in x2 0.8mm 124-pin Mini-PCI card connector x 1 External 15-pin D-Sub female connector for VGA x1 External 9-pin D-Sub male connector for RS-232 x1 External RJ-45 connector for Ethernet x1 External USB connector x 1 External Mini DIN connector for Keyboard/Mouse x1 Type I/II Compact Flash Slotx1
<b>Power Requirement</b>	Single Voltage +5V @ 800mA

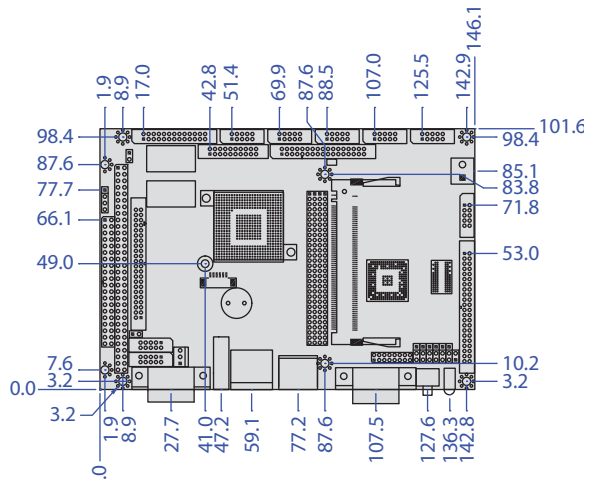
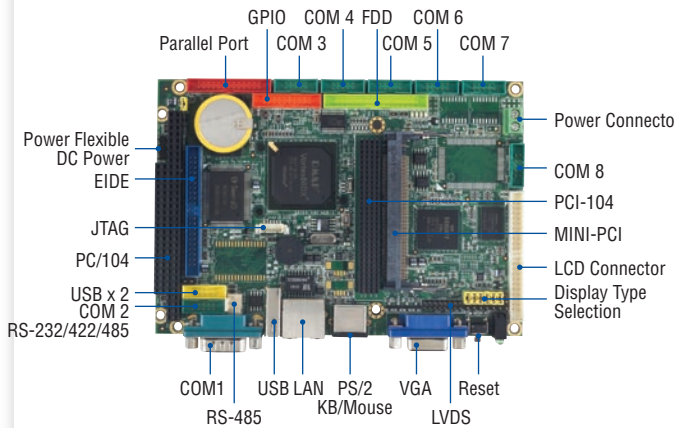
<b>Weight</b>	150g
<b>Board Size</b>	102 x 144mm (4.01 x 5.67 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6326 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - FDD 44P (2.0) x1
  - PRINT (2.0) x1
  - USB (2.0) x1
  - NET 4x2 (2.0) x2
  - RS-232 (2.0) x3
  - GPIO (2.0) x1
  - Audio Line x2
  - YKB x1

## Ordering information

- VDX-6326 Vortex86DX 3.5" CPU Module with 256MB DDR2



Unit: mm

## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 Plus standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 On board
<b>Watchdog Timer</b>	Software programmable from 30.5μ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT/LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MST1 EmbedDisk Module (16MB and above) Compact Flash Type I/II 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 FDD x 1 RS-232 port x7 RS-232/422/485 port x1 USB port (2.0) x3 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.54mm 4-pin header for +12V, -12V, -5V, GND x 1 2.54mm 2-pin header for Reset x1 2.54mm 3-pin header for RS-485 x1 2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 34-pin box header for FDD x 1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 10-pin box header for RS-232 x7 2.0mm 10-pin box header for USB x1 1.25mm 6-pin wafer for JTAG x1 0.8mm 124-pin Mini-PCI card connector x 1 External 15-pin D-Sub female connector for VGA x1 External 9-pin D-Sub male connector for RS-232 x1 External RJ-45 connector for Ethernet x1 External USB connector x 1 External Mini DIN connector for Keyboard/Mouse x1 Type I/II Compact Flash Slotx1
<b>Power Requirement</b>	Single Voltage +5V @ 820mA
<b>Weight</b>	150g
<b>Board Size</b>	102 x 144mm (4.01 x 5.67 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6327 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - FDD 44P (2.0) x1
  - PRINT (2.0) x1
  - USB (2.0) x1
  - RS-232 (2.0) x7
  - GPIO (2.0) x1
  - YKB x1

## Ordering information

- VDX-6327 Vortex86DX 3.5" CPU Module with 256MB DDR2

1

μProcessor  
Module

2

Mity/Tiny CPU  
Module

3

PC/104 CPU  
Module

4

Hall-Size CPU  
Module

5

3.5" CPU  
Module

6

Peripheral  
Module

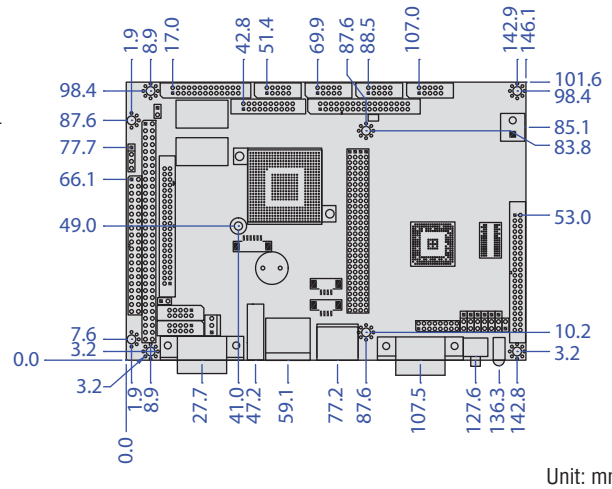
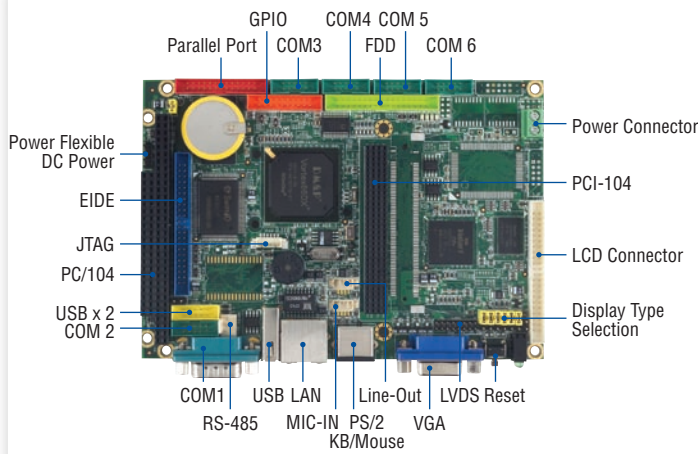
7

Display Product  
Series

8

Accessories &  
Technical Information





## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256 / 512MB DDR2 On board
<b>Watchdog Timer</b>	Software programmable from 30.5µ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT/LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB Audio controller
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) Compact Flash Type I/II 44-pin IDE to Micro SD (Optional)
<b>PWM</b>	16~24 Channels
<b>SRAM support</b>	512KB (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 FDD x 1 RS-232 port x5 RS-232/422/485 port x1 USB port (2.0) x3 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.54mm 4-pin header for +12V, -12V, -5V, GND x 1 2.54mm 2-pin header for Reset x1 2.54mm 3-pin header for RS-485 x1 2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 34-pin box header for FDD x 1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 16-pin header for LVDS 2.0mm 10-pin box header for RS-232 x5 2.0mm 10-pin box header for USB x1 1.25mm 6-pin wafer for JTAG x1 1.25mm 4-pin wafer for Line-out/MIC-in x2 0.8mm 124-pin Mini-PCI card connector x 1 (Optional) External 15-pin D-Sub female connector for VGA x1 External 9-pin D-Sub male connector for RS-232 x1 External RJ-45 connector for Ethernet x1 External USB connector x 1 External Mini DIN connector for Keyboard/Mouse x1 Type I/II Compact Flash Slotx1
<b>Power Requirement</b>	Single Voltage +5V @ 760mA
<b>Weight</b>	150g

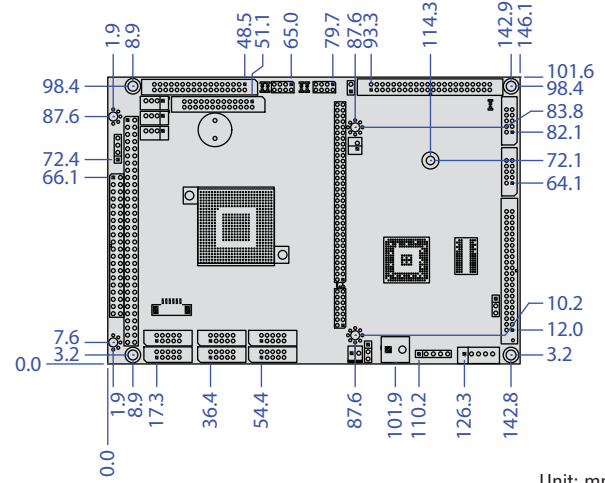
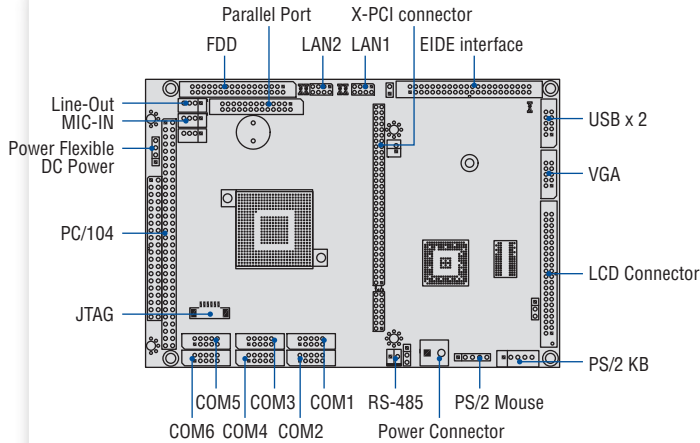
<b>Board Size</b>	102 x 144mm (4.01 x 5.67 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6328 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - FDD 44P (2.0) x1
  - PRINT (2.0) x1
  - USB (2.0) x1
  - RS-232 (2.0) x5
  - GPIO (2.0) x1
  - Audio Line x2
  - YKB x1

## Ordering information

- VDX-6328 Vortex86DX 3.5" CPU Module with 256MB DDR2



## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86DX- 800MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache L2 Cache 128KB
<b>Bus</b>	PC/104 standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	256/512MB DDR2 On board
<b>Watchdog Timer</b>	Software programmable from 30.5μ sec.to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT/LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280x1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio</b>	CM119 USB Audio controller
<b>Flash Disk Support</b>	Onboard 4MB SPI Flash Disk MSTI EmbedDisk Module (16MB and above) Compact Flash Type I/II 44-pin IDE to Micro SD (Optional)
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 FDD x 1 RS-232 port x5 RS-232/422/485 port x1 USB port (2.0) x2 Parallel port x1 10/100Mbps Ethernet port x2
<b>Connectors</b>	2.54mm 4-pin header for +12V, -12V, -5V, GND x 1 2.54mm 5-pin box header for keyboard x1 2.54mm 5-pin header for Mouse x1 2.54mm 2-pin header for RS-485 x1 2.54mm 2-pin header for Reset x1 2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 34-pin box header for FDD x 1 2.0mm 26-pin box header for Printer x1 2.0mm 10-pin box header for RS-232 x6 2.0mm 10-pin box header for USB x1 2.0mm 10-pin box header for VGA x1 2.0mm 4-pin wafer for Line-out/MIC-in x2 1.25mm 6-pin wafer for JTAG x1 Type I/II Compact Flash Slotx1

<b>Power Requirement</b>	Single Voltage +5V @ 820mA
<b>Weight</b>	150g
<b>Board Size</b>	102 x 144mm (4.01 x 5.67 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VDX-6329 x1
- CD for User's Manual & Driver x1
- Cable
  - HDD 44P (2.0) x1
  - FDD 44P (2.0) x1
  - PRINT (2.0) x1
  - USB (2.0) x1
  - RS-232 (2.0) x6
  - Audio Line x3
  - YKB x1
  - NET 4x2 (2.0) x2

## Ordering information

- VDX-6329 Vortex86DX 3.5" CPU Module with 256MB DDR2

1

μProcessor  
Module

2

Mity/Tiny CPU  
Module

3

PC/104 CPU  
Module

4

Half-Size CPU  
Module

5

3.5" CPU  
Module

6

Peripheral  
Module

7

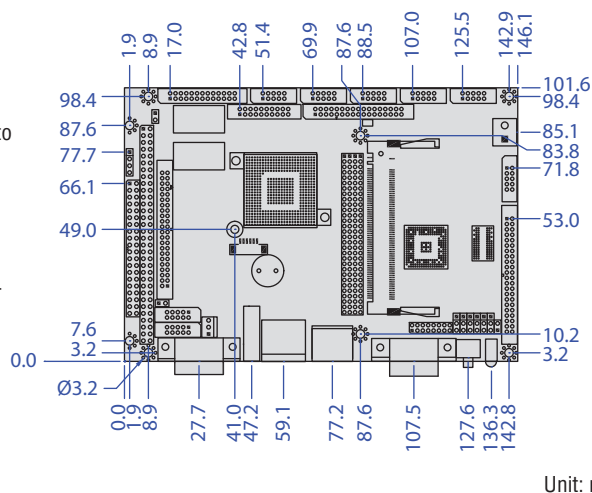
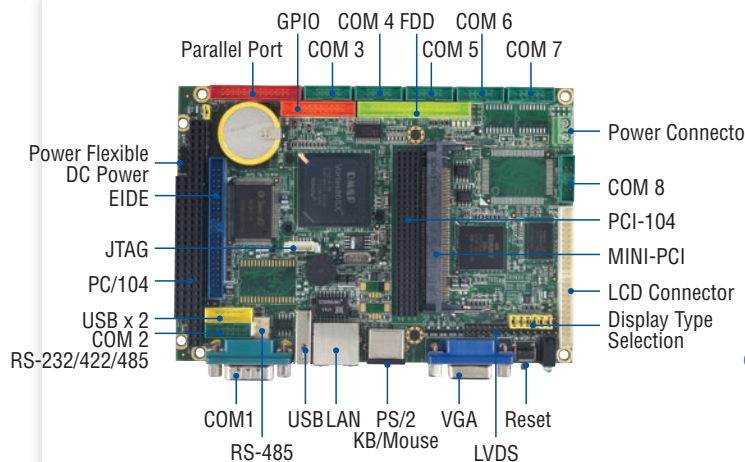
Display Product  
Series

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Accessories &  
Technical Information

# VSX-6127-V2

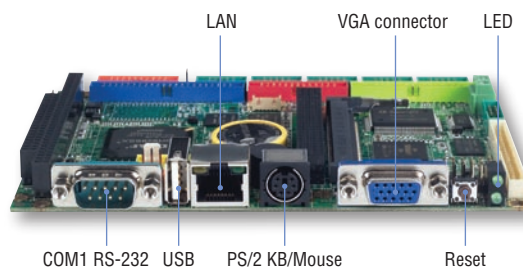
128MB/8S/3USB/LVDS/VGA/LCD/LAN/  
GPIO/CF/FDD



## Specifications

<b>SoC</b>	DM&P SoC CPU Vortex86SX- 300MHz Real Time Clock with Lithium Battery Backup
<b>Cache</b>	L1:16K I-Cache, 16K D-Cache
<b>Bus</b>	PC/104+ standard compliant
<b>BIOS</b>	AMI BIOS
<b>System Memory</b>	128/256MB DDR2 Onboard
<b>Watchdog Timer 0 &amp; 1 Sets</b>	Software programmable from 30.5μ sec. to 512 sec. x 2 sets (Watchdog 1 fully compatible with M6117D)
<b>VGA</b>	XGI Volari Z9s Chipset VGA and TFT/LVDS Flat Panel Interface Support Onboard 32MB VGA Memory, support resolution up to 1280 x 1024, 16M colors
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Flash Disk Support</b>	Onboard 2MB SPI Flash Disk MST1 EmbedDisk Module (16MB and above) Compact Flash Type I/II
<b>I/O Interface</b>	Enhanced IDE port (UltraDMA-100/66/33) x1 FDD x 1 RS-232 port x7 RS-232/485 port x1 USB port (Ver2.0) x3 Parallel port x1 16-bit GPIO port x1 10/100Mbps Ethernet port x1
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.0mm 44-pin box header for LCD x1 2.0mm 34-pin box header for FDD x 1 2.0mm 26-pin box header for Printer x1 2.0mm 20-pin box header for 16-bit GPIO x1 2.0mm 16-pin header for LVDS x1 2.0mm 10-pin box header for RS-232 x7 2.0mm 10-pin box header for USB x1 2.54mm 4-pin header for +12V, -12V, -5V, GND x 1 2.54mm 3-pin header for RS-485 x1 1.25mm 6-pin wafer for JTAG x1 0.8mm 124-pin Mini-PCI card connector x 1 External 15-pin D-Sub female connector for VGA x1 External 9-pin D-Sub male connector for RS-232 x1 External RJ-45 connector for Ethernet x1 External USB connector x 1 External Mini DIN connector for Keyboard/Mouse x1 Type I/II Compact Flash Slotx1

<b>Power Requirement</b>	Single Voltage +5V @ 760mA
<b>Weight</b>	148g
<b>Board Size</b>	102 x 144mm (4.01 x 5.67 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)



## Packing List

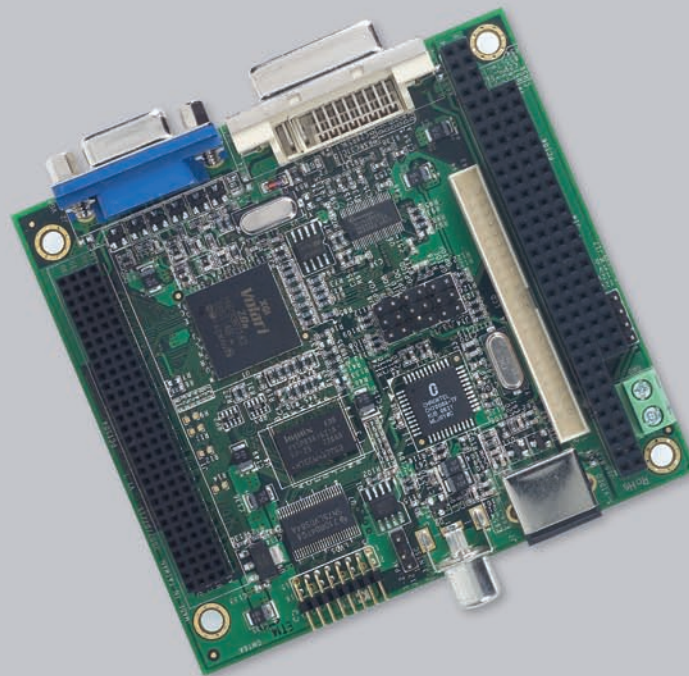
- VSX-6127-V2 x1
- CD for User's Manual & Driver x1
- Cable  
HDD 44P (2.0) x1  
FDD 34P (2.0) x1  
PRINT (2.0) x1  
USB (2.0) x1  
GPIO (2.0) x2  
RS-232 (2.0) x7  
YKB x1

## Ordering information

- **VSX-6127-V2** Vortex86SX 3.5" CPU Module with 128MB DDR2

# P eripheral Module

# 6

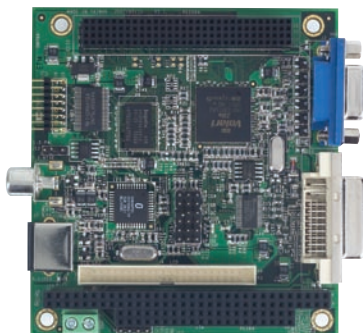


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# VSX-2812

PC/104+ VGA/LCD/DVI Module



## Specifications

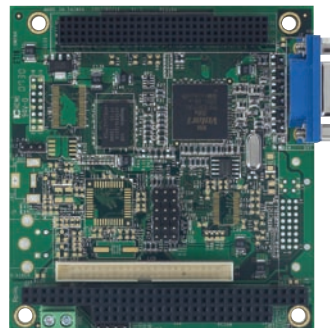
<b>Chipset</b>	XGI Volari Z9s Chipset 32-bit PCI bus Support 12-bit, 18-bit, and dual 12-bit Digital Interface Support VGA, DVI, TTL/LVDS, TV-OUT
<b>BIOS</b>	VGA/LCD/TV-OUT BIOS
<b>Video Memory</b>	Onboard 32MB DDR2 Resolution up to 1600 x 1200 @ 16M colors
<b>Bus</b>	PC/104+ standard compliant
<b>Connectors</b>	2.0mm 44-pin box header for LCD x1 2.0mm 16-pin header for LVDS x1 2.54mm 4-pin header for +12V, -12V, -5V DC-in x1 External 15-pin D-Sub female connector for VGA x1 External 29-pin D-Sub female connector for DVI x1 External 4-pin Mini Din connector for composite signal input x1 RCA connector for composite signal input x1
<b>Power Requirement</b>	Single Voltage +5V @ 280mA
<b>Weight</b>	95g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-2812 x1
- Screw Kit x1

# VSX-2812S

PC/104+ VGA/LCD Module



## Specifications

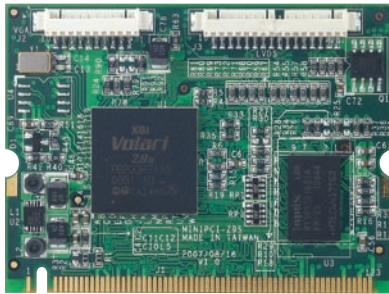
<b>Chipset</b>	XGI Volari Z9s Chipset 32-bit PCI bus Support 12-bit, 18-bit, and dual 12-bit Digital Interface Support VGA, and Flat Panel Display
<b>BIOS</b>	VGA/LCD BIOS
<b>Video Memory</b>	Onboard 32MB DDR2 Resolution up to 1600 x 1200 @ 16M colors
<b>Bus</b>	PC/104+ standard compliant
<b>Connectors</b>	2.0mm 44-pin box header for LCD x1 2.54mm 4-pin header for +12V, -12V, -5V DC-in x1 External 15-pin D-Sub female connector for VGA x1
<b>Power Requirement</b>	Single Voltage +5V @ 200mA
<b>Weight</b>	77g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- VSX-2812S x1
- Screw Kit x1

# MiniPCI-VGA-Z9s

## MiniPCI VGA/LVDS Module



### Specifications

<b>Chipset</b>	XGI Volari Z9s Chipset 32-bit PCI bus Support VGA, LVDS, and Flat Panel Display
<b>BIOS</b>	VGA/LCD BIO
<b>Video Memory</b>	Onboard 32MB DDR2 Resolution up to 1600 x 1200 @ 16M colors
<b>Bus</b>	Mini-PCI standard compliant
<b>Connectors</b>	1.25mm 10-pin wafer for VGA x1 1.25mm 16-pin wafer for LVDS x1
<b>Power Requirement</b>	Single Voltage +5V @ 80mA
<b>Weight</b>	9g
<b>Board Size</b>	64.7 x 44.6mm (2.54 x 1.76 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

- MiniPCI-VGA-Z9s x1
- VGA (1.25) x1

# MiniPCI-L-8100

## MiniPCI LAN Module



### Specifications

<b>Chipset</b>	Realtek 8100B 10/100 Mbps Ethernet Controller Integrated Fast Ethernet MAC, Physical chip and transceiver in one chip Supports 10/100Mbps N-way Auto-negotiation operation Supports Full Duplex Flow Control (IEEE 802.3x) Half/Full duplex capability Compliant to PC99/PC2001
<b>Bus</b>	Mini-PCI standard compliant
<b>Connectors</b>	1.25mm 8-pin wafer for LAN x1
<b>Power Requirement</b>	Single Voltage +5V @ 40mA
<b>Weight</b>	9g
<b>Board Size</b>	64.7 x 44.6mm (2.54 x 1.76 inches)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

### Packing List

- MiniPCI-L-8100 x1
- NET (1.25) x1

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

Display Product Series

8

Accessories & Technical Information

# MiniPCI-WLAN-Card USB Wireless LAN module

## MiniPCI WLAN Module



### Specifications

<b>Chipset</b>	VIA VT6655 Wireless LAN Controller
<b>Bus</b>	Mini-PCI standard compliant
<b>Frequency Band</b>	2400-2483.5MHz (for US, Canada) 2400-2483.5MHz (for Europe) 2400-2497MHz (for Japan)
<b>Operating Channel</b>	IEEE 802.1b, Direct Sequence Spread Spectrum, IEEE 802.11g, Orthogonal Frequency Division Multiplexing 11 Channels (US, Canada) 13 Channels (Europe and Japan)
<b>Driver Support</b>	Windows: 98SE/Me/NT/2000/XP/2003 Ser., Linux (2.4.x/2.6.x), CE (4.2/5.0/6.0) Linux source code available on website
<b>Power consumption</b>	802.11b: 250 mA @ 3.3V, 802.11g: 230mA @ 3.3V Listening: 190mA @ 3.3V
<b>Weight</b>	20g
<b>Board Size</b>	64.7 x 44.6 x 3.8mm
<b>Operating Temperature</b>	0°C ~ +55°C
<b>Compliance Certifications</b>	CE/FCC/Wi-Fi/NCC/Telec/Singapore

### Packing List

- MINI-PCI-WLAN-CARD x1
- WIRELESS-ANTENNA x1 (Optional)
- WIRELESS-CABLE-150MM x1 (Optional)



### Specifications

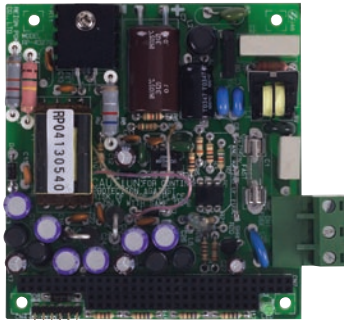
<b>Chipset</b>	VIA VT6656 Wireless LAN Controller
<b>Bus</b>	USB standard compliant
<b>Frequency Band</b>	2400-2483.5MHz (for US, Canada) 2400-2483.5MHz (for Europe) 2400-2497MHz (for Japan)
<b>Operating Channel</b>	IEEE 802.1b, Direct Sequence Spread Spectrum, IEEE 802.11g, Orthogonal Frequency Division Multiplexing 11 Channels (US, Canada) 13 Channels (Europe and Japan)
<b>Driver Support</b>	Windows: 98SE/Me/NT/2000/XP/2003 Ser., Linux (2.4.x/2.6.x), CE (4.2/5.0/6.0) Linux source code available on website
<b>Power consumption</b>	802.11b: 250 mA @ 3.3V, 802.11g: 230mA @ 3.3V Listening: 190mA @ 3.3V
<b>Weight</b>	10g
<b>Board Size</b>	25 x 60 x 5.9mm
<b>Operating Temperature</b>	0°C ~ +55°C
<b>Compliance Certifications</b>	CE/FCC/Wi-Fi/NCC/Telec/Singapore

### Packing List

- USB-WLAN-MODULE x1
- WIRELESS-CABLE-150MM x1 (Optional)
- WIRELESS-ANTENNA x1 (Optional)
- CABLE-WLAN-30M (2.0) x1 (Optional)
- CABLE-WLAN-30M (2.54) x1 (Optional)
- CABLE-USB-WLAN-30CM x1 (Optional)

# ICOP-0070

Power Supply AC/DC



## Specifications

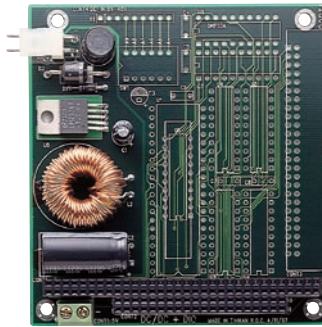
<b>Power</b>	Input voltage range: 90 ~ 264VAC Output voltage: +5VDC @ 2A -5VDC @ 0.2A +12VDC @ 1A -12VDC @ 0.3A Inrush frequency: 47 ~ 63Hz Inrush current cold: 20A @ 110VAC, 40A @ 220VAC Hold-up time: 500ms Rise time: 500ms Overload protection: power limit Short protection: auto-recovery MOSFET design Built-in line filter Meets FCC, CE, TUV, UL478 and CS Fast type FUSE 2A/250V
<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	3-pin AC input x1 6-pin DC output x1
<b>Weight</b>	120g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	0°C ~ +60°C

## Packing List

- ICOP-0070 x1
- Screw Kit x1

# ICOP-0071

Power Supply DC/DC Module



## Specifications

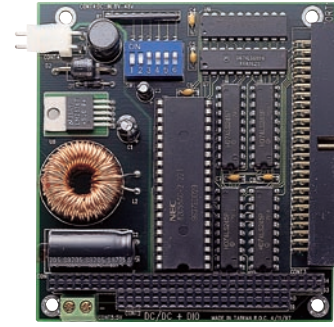
<b>Power</b>	Input voltage range: +8V ~ +48VDC Output voltage: 5V @ 2A Overload protection Overheat protection Converted frequency: 52KHz Converted effect: Over 80% Suitable for auto/truck system
<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	2-pin AC input x1
<b>Weight</b>	85g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +60°C

## Packing List

- ICOP-0071 x1
- Screw Kit x1

# ICOP-0072

Power Supply DC/DC with DIO Module



## Specifications

<b>Power</b>	Input voltage range: +8V ~ +48VDC Output voltage: 5V @ 400mA Switch frequency: 52KHz Efficiency: 80% Overload protection: shutdown when reaching thermal or current limit
<b>Bus</b>	PC/104 standard compliant
<b>Digital I/O</b>	24-bit digital I/O lines (1 group) Group emulates 8225PPI mode 0 Buffered circuits for higher driving capacity more than 8255 Output status read back Pin-compatible with OPTO- 22 I/O module racks Transfer rate: 300 KB/sec. (typical) Digital output: Logic level 0: 0.5V max. @ 24mA sink Logic level 1: 2.0V min. @ 15mA source Digital input: Logic level 0: 0.8V max. Logic level 1: 2.0V min.
<b>Connectors</b>	2.54mm 50-pin box header for I/O port
<b>Weight</b>	110g
<b>Board Size</b>	90 X 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +60°C

## Packing List

- ICOP-0072 x1
- Screw Kit x1

1

µProcessor  
Module

2

Mity/Tiny CPU  
Module

3

PC/104 CPU  
Module

4

Half-Size CPU  
Module

5

3.5" CPU  
Module

6

Peripheral  
Module

7

Display Product  
Series

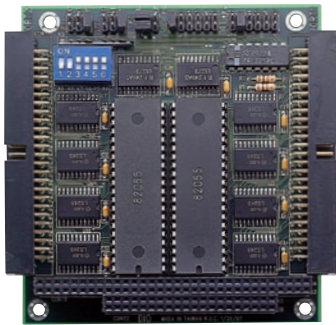
8

Accessories &  
Technical Information



# ICOP-0101

48-bit Digital I/O Module



## Specifications

48-bit digital I/O lines (2 groups)  
 Group emulates 8225 PPI mode 0  
 Buffered circuits for higher driving capacity than 8255  
 Bit 0 of port C can generate an interrupt to IRQ 2, 3, 4, 5, 6 or 7  
 Interrupt trigger on rising/falling edge  
 Output status read back  
 Pin compatible with OPT  
 0-22 I/O module racks  
 Transfer rate: 300 KB/sec. (typical)  
 Digital output: Logic level 0: 0.5V max. @ 24mA  
 Logic level 1: 2.0V min. @ 15mA  
 Digital input: Logic level 0: 0.8V max.  
 Logic level 1: 2.0V min.

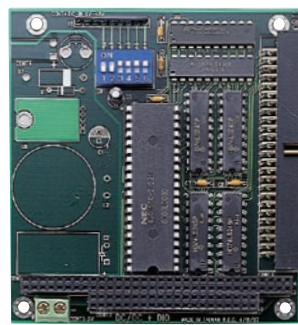
<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	2.54mm 50-pin box header for I/O port x2
<b>Power Requirement</b>	Single Voltage +5V @ 600mA
<b>Weight</b>	95g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +60°C

## Packing List

- ICOP-0101 x1
- Screw Kit x1

# ICOP-0102

24-bit Digital I/O Module



## Specifications

24-bit digital I/O lines (1 group)  
 Group emulates 8225 PPI mode 0  
 Buffered circuits for higher driving capacity than 8255  
 Interrupt trigger on rising/falling edge  
 Output status read back  
 Pin compatible with OPT 0-22 I/O module racks  
 Transfer rate: 300 KB/sec. (typical)  
 Digital output: Logic level 0: 0.5V max. @ 24mA sink  
 Logic level 1: 2.0V min. @ 15mA  
 Digital input: Logic level 0: 0.8V max.  
 Logic level 1: 2.0V min.

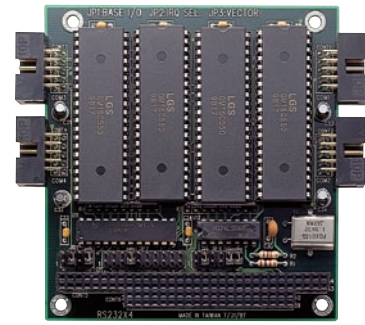
<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	2.54mm 50-pin box header for I/O port x1
<b>Power Requirement</b>	Single Voltage +5V @ 600mA
<b>Weight</b>	76g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	0°C ~ +55°C

## Packing List

- ICOP-0102 x1
- Screw Kit x1

# ICOP-1800

Multi RS-232C Module



## Specifications

**Chipset** UART 16C550 x4  
 RS-232 asynchronous port x4  
 Supports: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND  
 Interrupt select: 2, 3, 4, 5, 7  
 RS-232 modem control signals  
 I/O address: 100h to 300h  
 Baud rate: up to 115.2Kbps

<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	2.54mm 10-pin box header for RS-232 x4
<b>Power Requirement</b>	Single +5V @ 200mA
<b>Weight</b>	100g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +55°C

## Packing List

- ICOP-1800 x1
- Cable RS-232 x4
- Screw Kit x1

# ICOP-2811

PC/104 VGA/ LCD Module



## Specifications

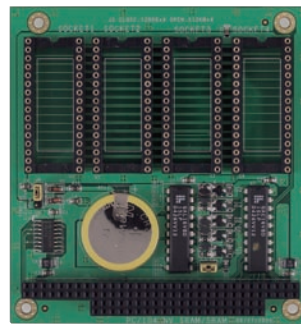
<b>Chipset</b>	TOPRO TP65081Q Chipset 16-bit ISA bus Panel Data bus: 24-bit Display Support: VGA and Flat Panel Display, Mono/TFT/DSTN LCD
<b>BIOS</b>	VGA BIOS
<b>Video Memory</b>	Onboard 512KB, Resolution up to 640 x 480 @ 256 colors (Optional Onboard 1 MB, 1024 x 768 @ 256 colors )
<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	2.54mm 10-pin box header for VGA x1 2.0mm 44-pin box header for LCD x1 External 15-pin D-Sub female connector for VGA x1
<b>Power Requirement</b>	Single Voltage +5V @ 500mA
<b>Weight</b>	250g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	-20°C ~ +60°C

## Packing List

- ICOP-2811 x1
- Screw Kit x1

# ICOP-4087

PC/104 Solid State Disk Modul



## Specifications

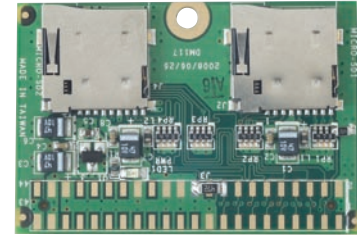
<b>Features</b>	Emulated to 2 Floppy disk drivers (A: / B:) 530 mAh Lithium Battery for SRAM data retention
<b>Flash Disk</b>	Support SRAM/NVSRAM up to 4 Sockets Maximum capacity 512KB SRAM/NVSRAM x 4 = 2MB Compatible with BIOS level, without programmodification and driver requirement
<b>Bus</b>	PC/104 8 Bit standard compliant
<b>Connectors</b>	32 Pin DIP socket for SRAM / NVSRAM x4
<b>Power Requirement</b>	Single Voltage +5V @ 120mA
<b>Weight</b>	80g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operating Temperature</b>	0°C ~ +60°C

## Packing List

- ICOP-4087 x1
- Screw Kit x1

# SD-1917

IDE to microSD Module



## Specifications

<b>Features</b>	44 pins IDE to microSD Adapter Support SDHC cards
<b>Connectors</b>	2.0mm 44-pin connector for IDE x1 microSD connector x2
<b>Weight</b>	10g
<b>Dimension</b>	48 x 32.6 mm (W x H)
<b>Operating Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)
<b>Embedded CPU board support</b>	Vortex86DX series

## Packing List

- SD-1917 x1

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

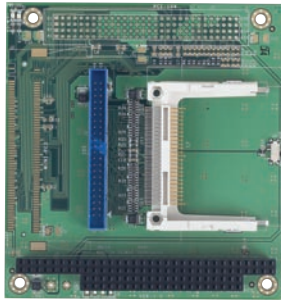
Display Product Series

8

Accessories & Technical Information

# PC104-1911-CF

One Slot Compact Flash to IDE



## Specifications

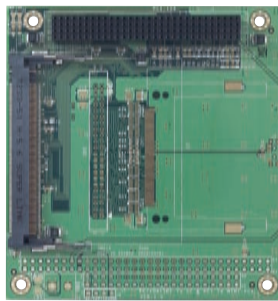
<b>Features</b>	ATA to standard IDE interface
<b>Bus</b>	PC/104 standard compliant
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 2.54mm 4-pin header for +12V, -12V, -5V x1 Type I/II Compact Flash slot x1
<b>Weight</b>	80g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operation Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- PCI104-1911-CF x1
- Screw Kit x1

# PC104-1911-MINIPCI

PC/104+ MINIPCI Module



## Specifications

<b>Features</b>	ATA to standard IDE interface
<b>Bus</b>	PC/104+standard compliant
<b>Connectors</b>	0.8mm 124-pin Mini-PCI card connector x1
<b>Weight</b>	55g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operation Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- PC104-1911-MINIPCI x1
- Screw Kit x1

# CF-1915

Compact Flash to IDE Module



## Specifications

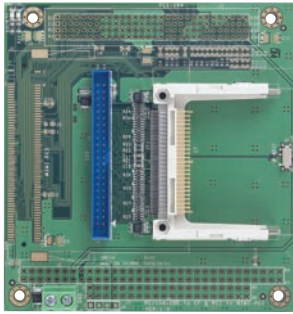
Converts compact flash to 40-pin and 44-pin IDE interface	
<b>Status Indicators</b>	Power LED IDE Active LED
<b>Connectors</b>	2.0mm 44-pin box header x1 2.0mm 44-pin socket x1 2.54mm 40-pin header x1 2.54mm 4-pin Molex connector for power input x1 Type I/II Compact Flash slot x1
<b>Weight</b>	28g
<b>Board Size</b>	66 x 68mm (2.6 x 2.68 inches)

## Packing List

- CF-1915 x1
- Cable  
HDD 44P(2.Q) x1

# CF-1916

One Slot Compact Flash to IDE



## Specifications

<b>Features</b>	ATA to standard IDE interface
<b>Status</b>	Power LED
<b>Indictors</b>	IDE Active LED
<b>Connectors</b>	2.0mm 44-pin box header for IDE x1 Type I/II Compact Flash slot x1
<b>Weight</b>	55g
<b>Board Size</b>	90 x 96mm (3.54 x 3.77 inches)
<b>Operation Temperature</b>	-20°C ~ +70°C -40°C ~ +85°C (Optional)

## Packing List

- CF-1916 x1
- Screw Kit x1

# ICOP-0091

PC/104 Interface to ISA Bus



## Specifications

Converts 104-pin PC/104 interface to 98-pin ISA Bus

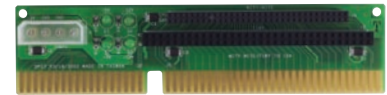
<b>Status Indicators</b>	Power LED for +5V, -5V, +12V, -12V x4
<b>Connectors</b>	2.54mm 104-pin socket for PC/104 interface x1 98-pin Gold finger for ISA interface x1
<b>Weight</b>	34g
<b>Board Size</b>	134 x 33mm (5.27 x 1.3inches)

## Packing List

- ICOP-0091 x1

# ICOP-0093

x-ISA Interface to ISA Bus



## Specifications

Converts 64-pin x-ISA interface to 98-pin ISA Bus

<b>Status Indicators</b>	Power LED for +5V, -5V, +12V, -12V x4
<b>Connectors</b>	2.0mm 64-pin socket for Mity-Mite x-ISA interface x1 2.54mm 64-pin socket for Tiny x-ISA interface x1 98-pin Gold finger for ISA interface x1
<b>Weight</b>	34g
<b>Board Size</b>	134 x 33mm (5.27 x 1.3inches)

## Packing List

- ICOP-0093 x1

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

Display Product Series

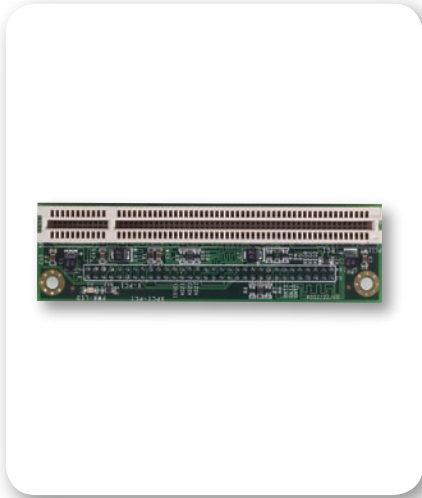
8

Accessories & Technical Information



# ICOP-0097

## x-PCI Interface to PCI Bus



### Specifications

Converts 64-pin x-PCI interface to PCI Bus

<b>Connectors</b>	124-pin slot for PCI x1 2.0mm 64-pin header for x-PCI x1
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<b>Weight</b>	24g
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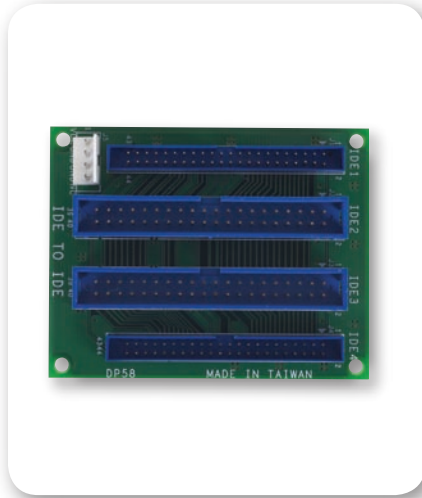
<b>Board Size</b>	88 x 25mm (3.46 x 0.98inches)
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### Packing List

- ICOP-0097 x1

# ICOP-0094

## IDE Exchanger Kit



### Specifications

Converts 2.0mm 44-pin header to 2.54mm 40-pin header

<b>Cable</b>	2.54mm 40-pin to 2.54mm 40-pin IDE cable x1 2.0mm 44-pin to 2.0mm 44-pin IDE cable x1
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<b>Connectors</b>	2.0mm 44-pin box header for IDE x2 2.54mm 40-pin box header for IDE x2 4-pin MOLEX connector for power input x1
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<b>Weight</b>	80g
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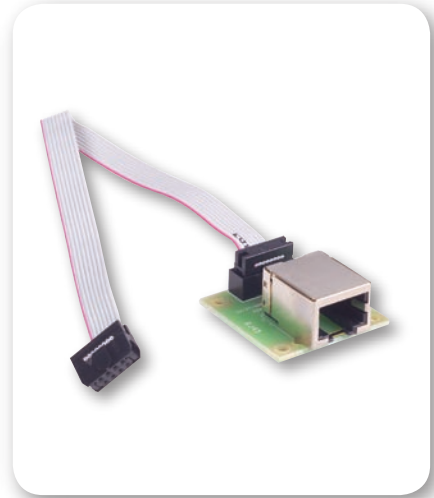
<b>Board Size</b>	70 x 50mm (2.75 x 1.96 inches)
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### Packing List

- ICOP-0094 x1
- Cable  
HDD x1  
HDD 44Px3 (52cm) x1

# ICOP-0076

## LAN Adapter Kit



### Specifications

<b>Features</b>	Adapt internal LAN (8 Pin header) for external connection
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<b>Connectors</b>	2.0mm 8-pin box header External RJ-45 connector for Ethernet
-------------------	---

<b>Weight</b>	10g
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<b>Board Size</b>	30 x 30mm (1.18 x 1.18inches)
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<b>Operating Temperature</b>	0°C ~ +60°C
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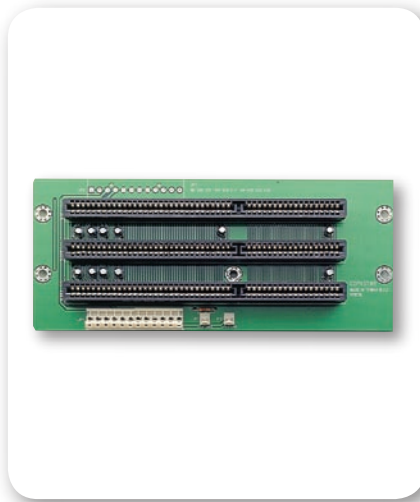
<b>Embedded CPU boards support</b>	Vortex86SX/Vortex86DX Series
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### Packing List

- ICOP-0076 x1
- NET4x2 (2.0) -0076 x1

# ICOP-8003

3 Slots ISA Backplane



## Specifications

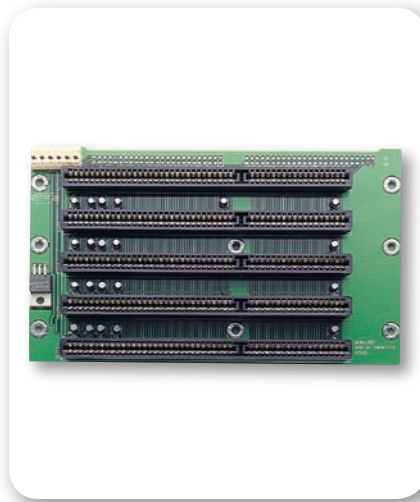
<b>Power Indicators</b>	One each for +5V/-5V/+12V/-12V, 12-pin ATX Molex connector for connection to ATX Power source
<b>Weight</b>	135g
<b>Board Size</b>	180 x 75mm (7.08 x 2.95 inches)

## Packing List

- ICOP-8003 x1

# ICOP-8005

5 Slots ISA Backplane



## Specifications

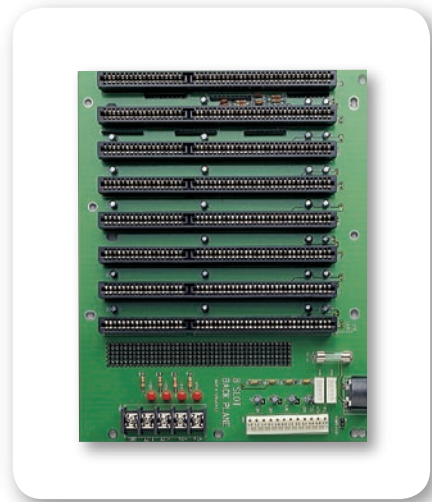
<b>Power Indicators</b>	One each for +5V/-5V/+12V/-12V, 6-pin ATX Molex connector for connection to ATX Power source
<b>Weight</b>	180g
<b>Board Size</b>	180 x 105mm (7.08 x 4.13 inches)

## Packing List

- ICOP-8005 x1

# ICOP-8008

8 Slots ISA Backplane



## Specifications

<b>Power Indicators</b>	One each for +5V/-5V/+12V/-12V, 12-pin ATX Molex connector for connection to ATX Power source
<b>Terminal Block</b>	5-pole Industrial Terminal Block for connection to power source - +5V/-5V/+12V/-12V/GND
<b>Connectors</b>	2.54mm box header for Keyboard x2 External 5-pin Keyboard connector x1
<b>Safety Fuse</b>	2A Fuse for V-input 220VAC/110VAC x1
<b>Status Indicators</b>	Power LED for +5V/-5V/+12V/-12V x4
<b>Weight</b>	350g
<b>Board Size</b>	220 x 73mm (8.66 x 2.87 inches)

## Packing List

- ICOP-8008 x1

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

Display Product Series

8

Accessories & Technical Information

# POWER SUPPLY

## AC/DC Power Adapter

PS-047A-3Y



### Electrical Specifications:

Maximum Power	47W
AC Input	+100 ~ 240VAC @ 1A, 50/60Hz
DC Output	+5VDC @ 7A, +12VDC @ 1.5A, -12VDC @ 0.3A Triple outputs
Protection	Over voltage protection, AC recycle; Over circuit protection, Auto recover
Operating Temperature	0°C to +40°C
Storage Temperature	-10°C to +70°C

Power-15W



### Electrical Specifications:

Maximum Power	15W
AC Input	+100 ~ 240VAC @ 1A, 50/60Hz AC100-240V ~ 50/60Hz 0.45Amax
DC Output	+5VDC @ 3A
Protection	Over voltage protection, AC recycle; Over circuit protection, Auto recover
Operating Temperature	0°C to +40°C
Storage Temperature	-10°C to +70°C

Power-15W-3pin



### Electrical Specifications:

Maximum Power	15W
AC Input	+100 ~ 240VAC @ 1A, 50/60Hz AC100-240V ~ 50/60Hz 0.45Amax
DC Output	+5VDC @ 3A
Protection	Over voltage protection, AC recycle; Over circuit protection, Auto recover
Operating Temperature	0°C to +40°C
Storage Temperature	-10°C to +70°C

# Display Product Series



<div style="background-color: green; width: 10px; height: 100px; margin-bottom: 5px;"></div> <div style="background-color: green; width: 10px; height: 100px; margin-bottom: 5px;"></div>	<p>PDX-057T Industrial 5.7" Panel PC..... 90</p> <p>PDX-089T Industrial 8.9" Panel PC..... 92</p> <p>LCD Display LCD Display Kit ..... 94</p> <p>VOX-064-TS 6.4" Open Frame Panel PC ..... 96</p> <p>VOX-084-TS 8.4" Open Frame Panel PC ..... 97</p> <p>VOX-104-TS 10.4" Open Frame Panel PC ..... 98</p> <p>VOX-121-TS 12.1" Open Frame Panel PC ..... 99</p> <p>VOX-150-TS 15" Open Frame Panel PC ..... 100</p>
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### Features

- 5.7" TFT LCD with resistive touchscreen
- DM&P Vortex86DX 1GHz onboard
- 256MB DDR2 system memory onboard
- Compact Flash Type I/II / Micro SD Slot
- Mini-PCI socket (Wi-Fi Optional)
- Fanless and low power consumption
- Metal chassis with compact design

### Introduction

PDX-057T is an ultra compact platform for the present demanding embedded and productive applications. It has new Vortex86DX SoC CPU which consumes only minimum power requirement when running at 1GHz, and DDR2 memory provides faster data transfer rate. By using 5.7" TFT LCD, PDX-057T becomes the perfect choice for a limited budget. In addition, the integrated 10/100M Ethernet port supplies the communication capability which makes PDX-057T can be more widely used when running with DOS, Linux, Windows CE, and Windows XP environment to become the perfect solution for system integration.

### Specifications

<b>CPU</b>	DM&P SoC CPU Vortex86DX-1GHz
<b>Cache</b>	L1:16KB I-Cache, 16KB D-Cache L2: 128KB Cache
<b>BIOS</b>	AMI BIOS
<b>Memory</b>	256MB DDR2 onboard
<b>Watchdog Timer</b>	Software programmable from 30.5u to 512 seconds x 2 sets
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio (Optional)</b>	CM119 Line-Out
<b>Internal Drives</b>	Compact Flash Type I/II slot Micro SD slot
<b>I/O</b>	RS-232/422/485 x 1 USB ports (Ver2.0) x 2
<b>Expansion Slot</b>	Mini-PCI socket x 1

### Mechanical & Environment

<b>Power Requirement</b>	+5V DC +8~+35V DC(Optional)
<b>Power Consumption</b>	1.3A
<b>Operating Temperature</b>	0 ~ +60 °C (+32 ~ +140 °F)
<b>Storage Temperature</b>	-20 ~ +70 °C (-4 ~ +158 °F)
<b>Dimensions</b>	152 x 112 x 33 mm (5.98 x 4.41 x 1.3 inches)
<b>Weight</b>	374g
<b>Certification</b>	CE, FCC, VCCI

### LCD Specifications

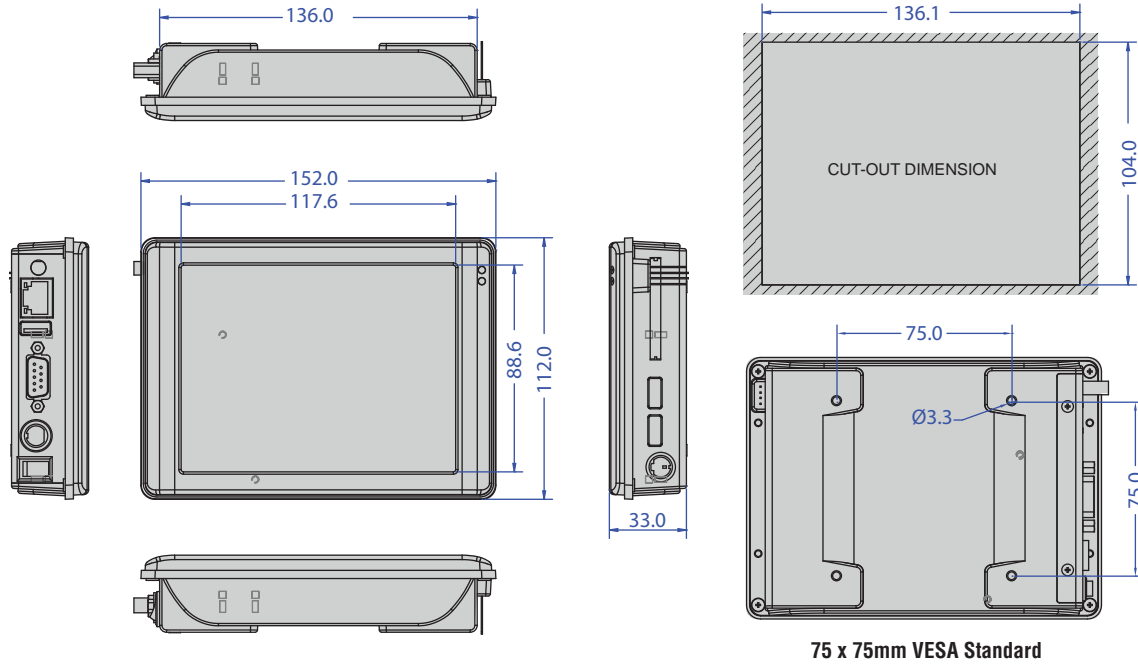
<b>Display Type</b>	5.7" TFT LCD
<b>Backlight Unit</b>	LED
<b>Display Resolution</b>	640 (W) x 480 (H)
<b>Brightness (cd/m<sup>2</sup>)</b>	400 cd/m <sup>2</sup>
<b>Contrast Ratio</b>	300:1
<b>Display Color</b>	262,144
<b>Dot Pitch (mm)</b>	0.06 x 0.18
<b>Viewing Angle</b>	Vertical 100°, Horizontal 140°
<b>Backlight Lifetime</b>	25,000 hrs

### Touchscreen

<b>Type</b>	Analog Resistive
<b>Resolution</b>	Continuous
<b>Transmittance</b>	80%
<b>Controller</b>	USB interface
<b>Software Driver</b>	DOS/Linux/WinCE/WinXP
<b>Durability</b>	1 million

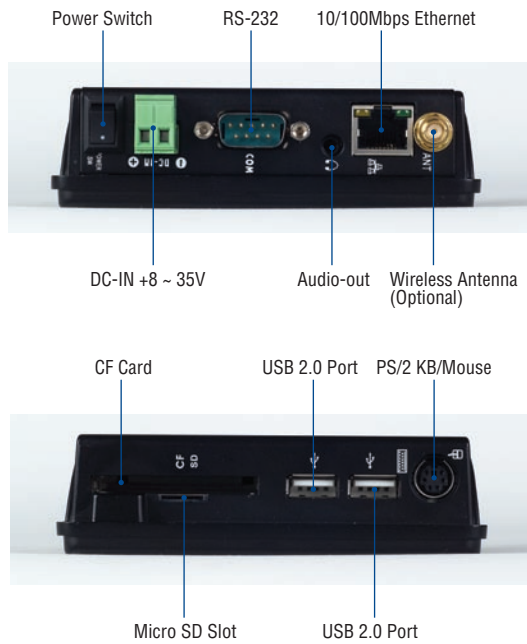
## Dimensions

Unit: mm

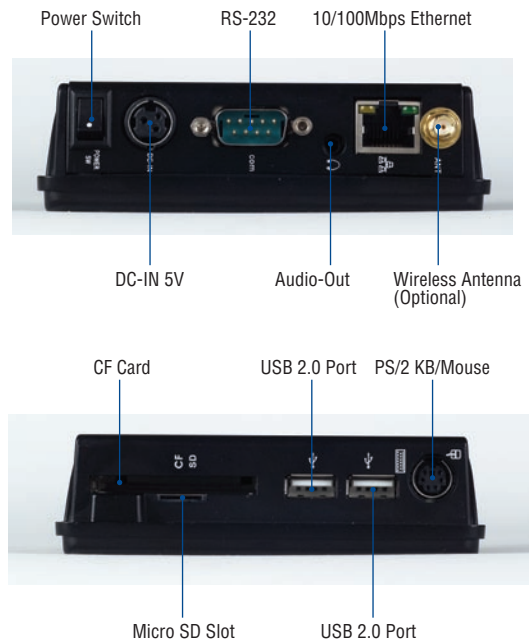


## Side View

PDX-057T-8A



PDX-057T-5A



## Ordering Information

- **PDX-057T-5A** 5.7" Vortex86DX Panel PC w/256MB DDR2 /2USB/Line-Out/LAN/1COM/CF/MicroSD/15W Power Adapter
- **PDX-057T-8A** 5.7" Vortex86DX Panel PC w/256MB DDR2 /2USB/Line-Out/LAN/1COM/CF/MicroSD

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

Display Product Series

8

Accessories & Technical Information



### Features

- 8.9" TFT LCD with resistive touchscreen
- DM&P Vortex86DX 1GHz onboard
- 256MB DDR2 system memory onboard
- Compact Flash Type I/II / Micro SD Slot
- Mini-PCI socket (Wi-Fi Optional)
- Fanless and low power consumption
- Metal chassis with compact design

### Introduction

PDX-089T is an ultra compact platform for the present demanding embedded and productive applications. It has new Vortex86DX SoC CPU which consumes only minimum power requirement when running at 1GHz, and DDR2 memory provides faster data transfer rate. By using 8.9" TFT LCD, PDX-089T becomes the perfect choice for a limited budget. In addition, the integrated 10/100M Ethernet port supplies the communication capability which makes PDX-089T can be more widely used when running with DOS, Linux, Windows CE, and Windows XP environment to become the perfect solution for system integration.

### Specifications

<b>CPU</b>	DM&P SoC CPU Vortex86DX-1GHz
<b>Cache</b>	L1:16KB I-Cache, 16KB D-Cache L2: 128KB Cache
<b>BIOS</b>	AMI BIOS
<b>Memory</b>	256MB DDR2 onboard
<b>Watchdog Timer</b>	Software programmable from 30.5u to 512 seconds x 2 sets
<b>LAN</b>	Integrated 10/100Mbps Ethernet
<b>Audio (Optional)</b>	CM119 Line-Out
<b>Internal Drives</b>	Compact Flash Type I/II slot Micro SD slot
<b>I/O</b>	RS-232/422/485 x 1 USB ports (Ver2.0) x 2
<b>Expansion Slot</b>	Mini-PCI socket x 1

### Mechanical & Environment

<b>Power Requirement</b>	+5V DC +8~+35V DC(Optional)
<b>Power Consumption</b>	1.3A
<b>Operating Temperature</b>	0 ~ +60 °C (+32 ~ +140 °F)
<b>Storage Temperature</b>	-20 ~ +70 °C (-4 ~ +158 °F)
<b>Dimensions</b>	236.6 x 146 x 35 mm (9.31 x 5.75 x 1.38 inches)
<b>Weight</b>	468g
<b>Certification</b>	CE, FCC, VCCI

### LCD Specifications

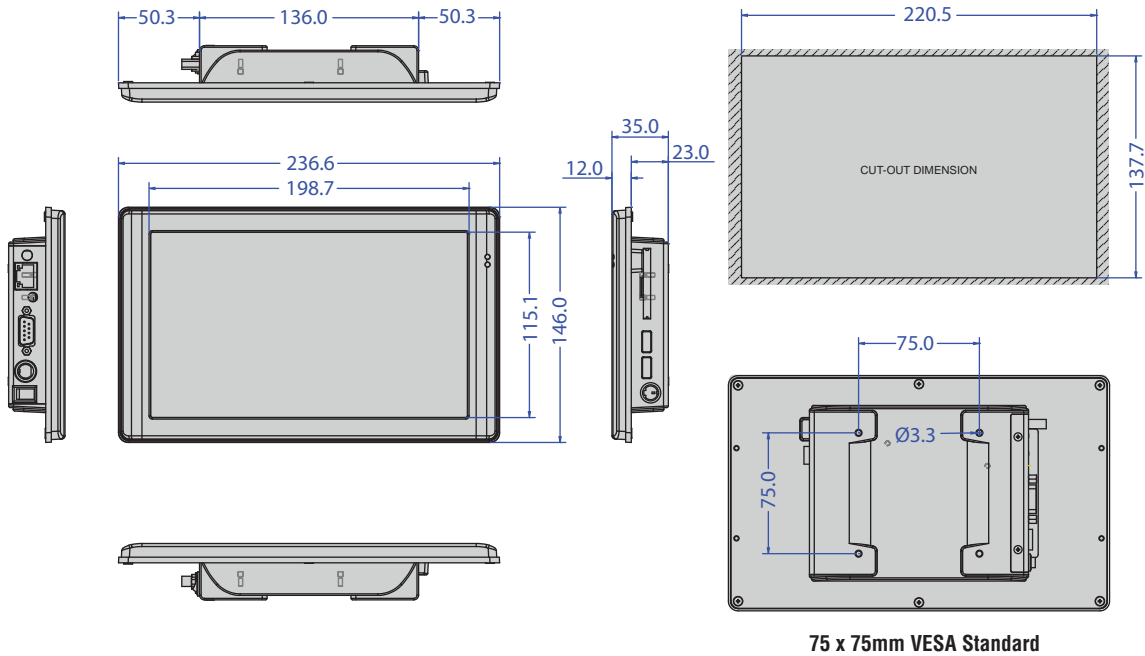
<b>Display Type</b>	8.9" TFT LCD
<b>Backlight Unit</b>	LED
<b>Display Resolution</b>	1024 (W) x 600 (H)
<b>Brightness (cd/m<sup>2</sup>)</b>	220 cd/m <sup>2</sup>
<b>Contrast Ratio</b>	500 : 1
<b>Display Color</b>	262,144
<b>Dot Pitch (mm)</b>	0.06 x 0.18
<b>Viewing Angle</b>	Vertical 110°, Horizontal 140°
<b>Backlight Lifetime</b>	25,000 hrs

### Touchscreen

<b>Type</b>	Analog Resistive
<b>Resolution</b>	Continuous
<b>Transmittance</b>	80%
<b>Controller</b>	USB interface
<b>Software Driver</b>	DOS/Linux/WinCE/WinXP
<b>Durability</b>	1 million

## Dimensions

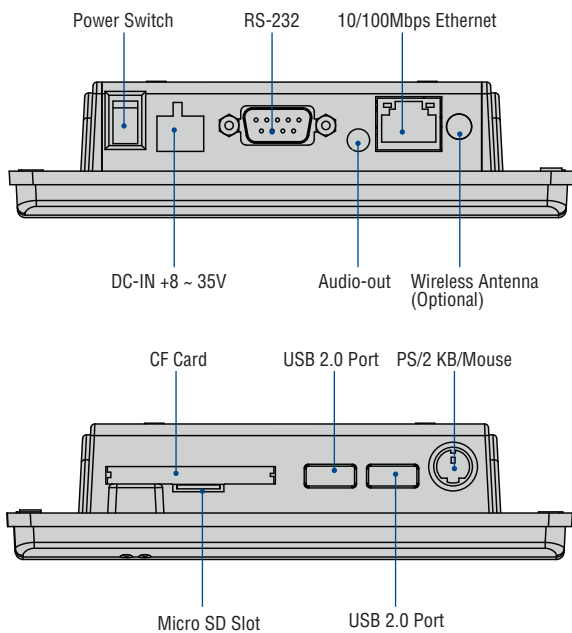
Unit: mm



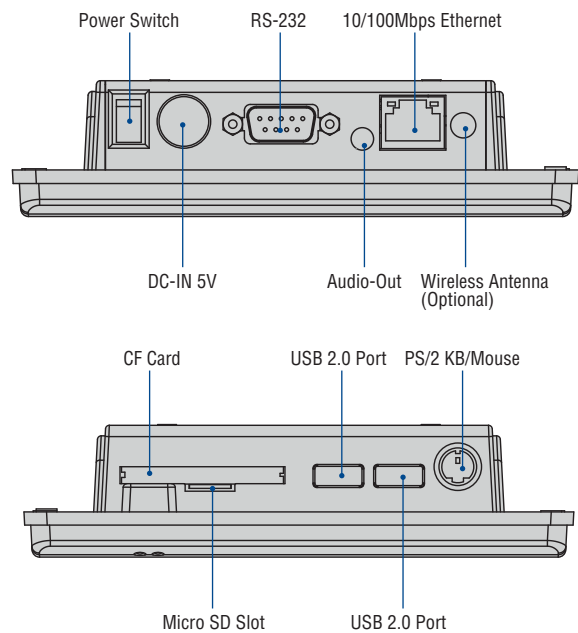
- 1 µProcessor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 **Display Product Series**
- 8 Accessories & Technical Information

## Side View

PDX-089T-8A



PDX-089T-8A

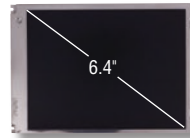


## Ordering Information

- **PDX-089T-5A** 8.9" Vortex86DX Panel PC w/256MB DDR2 /2USB/Line-Out/LAN/1COM/CF/MicroSD/15W Power Adapter
- **PDX-089T-8A** 8.9" Vortex86DX Panel PC w/256MB DDR2 /2USB/Line-Out/LAN/1COM/CF/MicroSD

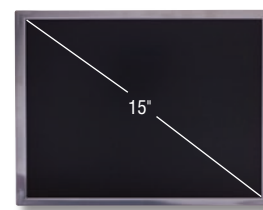
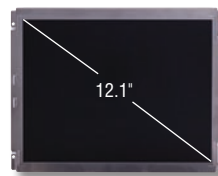


# LCD Display



Model name	LCD-6.4"LG	LCD-PVI-PD064VT4	LCD-AU-084SN03
Size	6.4"	6.4"	8.4"
LCD Brand	LG	PVI	AU
Resolution (Pixel)	640 x 480 VGA	640 x 480 VGA	800 x 600 SVGA
Number of colours	262, 144	262, 144	262, 144
Viewing angle (L/R/U/D)	45/45/15/35	60/55/40/55	70/70/65/50
Brightness (nit)	250	400	220
Contrast Ratio	300 : 1	400 : 1	600 : 1
Response Time (ms)	45	40	30
Signal Interface	18bit TTL	18bit TTL	18/24 bits LVDS
Supply Voltage (V)	3.3V	5V	3.3V
LCD Power Consumption (W)	2.6W	4.32W	3.3W
Lamp life (hrs.)	20,000	20,000	30,000
Operation Temp	0°C ~ +50°C	-20°C ~ +70°C	-30°C ~ +85°C

Ordering information	Item Number	Description
6.4" LG Set	LCD-6.4"-LG	LG LB064V02,6.4" 640x480 LCD
	INVERTER-WICCFL1	Backlight inverter for LG 6.4" LCD
	LCD-CABLE-LG6.4-15CM	LCD Cable for VSX/VDX series
	CABLE-LG640480-MARK	LCD Cable for Vega86 Series
	T/S-CONTROLLER-USB-4	TouchScreen Controller-4 wires-USB
6.4" PVI Set	LCD-PVI-TOUCHSCREEN	6.4" TOUCHSCREEN
6.4" PVI Set	LCD-PVI-PD064VT4	PVI PD064VT4 6.4" 640x480 LCD
	INVERTER-QF82V2.02	Backlight inverter for PVI 6.4" LCD
	CABLE-16C6448A/486	LCD Cable for VSX/VDX series
	CABLE-16C6448A/MARK	LCD Cable for Vega86 Series
	T/S-CONTROLLER-USB-4	TouchScreen Controller-4 wires-USB
6.4" PVI Set	LCD-PVI-TOUCHSCREEN	6.4" TOUCHSCREEN
8.4" AU Set	LCD-LCD-AU-084SN03V1	AU G084SN03, 8.4" 800x600 LCD
	INVERTER-QF38V6.75	Backlight inverter for AU 8.4" LCD
	CABLE-LVDS-30	LVDS Cable for ICOP-0096/ICOP-0078
	ICOP-0096	LVDS to 18-bit TFT converter for VSX/VDX Series
	ICOP-0078	LVDS to 18-bit TFT converter for Vega86 Series
	T/S-CONTROLLER-USB-4	TouchScreen Controller-4 wires-USB
8.4" AU Set	LCD-AU084-TOUCHSCREE	8.4" LCD TOUCHSCREEN



Model name	LCD-AU-10.4"-N2-PAN EL	LCD-AU-12.1"-PANEL	LCD-AU-15"-PANEL
Size	10.4"	12.1"	15"
LCD Brand	AU	AU	AU
Resolution (Pixel)	800 x 600 SVGA	800 x 600 SVGA	1024 x 768 XVGA
Number of colours	262, 144	262, 144	262, 144
Viewing angle (L/R/U/D)	60/60/45/55	70/70/45/55	80/80/70/60
Brightness (nit)	400	400	350
Contrast Ratio	500 : 1	600 : 1	700 : 1
Response Time (ms)	30	35	8
Signal Interface	18/24 bits LVDS	18/24 bits LVDS	18/24 bits LVDS
Supply Voltage (V)	3.3V	3.3V	3.3V
LCD Power Consumption (W)	6.5W	7.4W	8.9W
Lamp life (hrs.)	50,000	50,000	50,000
Operation Temp	-30°C ~ +85°C	-30°C ~ +85°C	0°C ~ +65°C

Ordering information	Item Number	Description
10.4" AU Set	LCD-AU-10.4"-N2-PANEL INVERTER-QF63V2 CABLE-LVDS-30 ICOP-0096 ICOP-0078 T/S-CONTROLLER-USB-4 LCD-AU104-TOUCHSCREEN	AU G104SN02, 10.4" 800 x 600 LCD Backlight inverter for AU 10.4"LCD LVDS Cable for ICOP-0096/ICOP-0078 LVDS to 18- bit TFT converter for VSX/VDX Series LVDS to 18-bit TFT converter for Vega86 Series TouchScreen Controller-4 wires-USB 10.4" LCD TOUCHSCREEN
12.1" AU Set	LCD-AU-12.1"-PANEL INVERTER-QF61V4.50 CABLE-LVDS-AU121-30 ICOP-0096 ICOP-0078 T/S-CONTROLLER-USB-4 LCD-AU121-TOUCHSCREEN	AU G121SN01, 12.1" 800 x 600 LCD Backlight inverter for AU 12.1"LCD LVDS Cable for ICOP-0096/ICOP-0078 LVDS to 18- bit TFT converter for VSX/VDX Series LVDS to 18-bit TFT converter for Vega86 Series TouchScreen Controller-4 wires-USB 12.1" LCD TOUCHSCREEN
15" AU Set	LCD-AU-15"-PANEL INVERTER-QF117V1.14 CABLE-LVDS-AU15-30 ICOP-0096 ICOP-0078 T/S-CONTROLLER-USB-4 LCD-AU15-TOUCHSCREEN	AU G150XG01 15" 1024 x 768 LCD Backlight inverter for AU 15"LCD LVDS Cable for ICOP-0096/ICOP-0078 LVDS to 18- bit TFT converter for VSX/VDX Series LVDS to 18-bit TFT converter for Vega86 Series TouchScreen Controller-4 wires-USB 15" LCD TOUCHSCREEN
ICOP-0096/ICOP-0078 CABLE-LVDS	LVDS to 18- bit TFT converter For Vortex86SX/Vortex86DX/Vega86 Series	ICOP-0096/ICOP-0078 is the one channel LVDS Module, designing especially for Vortex86SX/Vortex86DX/Vega86 series which converts the 18-bit TFT signal. Chip:T1 SN75LVDS84 Connector: 2.0mm 16 -pin box connector x 1 (TFT) 2.0mm 44-pin box header x1 (LVDS) Size: 44 x 21mm (1.73 x 0.82 inches) Weight:3g



- 1 µProcessor Module
- 2 Mity/Tiny CPU Module
- 3 PC/104 CPU Module
- 4 Half-Size CPU Module
- 5 3.5" CPU Module
- 6 Peripheral Module
- 7 Display Product Series
- 8 Accessories & Technical Information

# Open Frame Panel PC

## VOX-064-TS

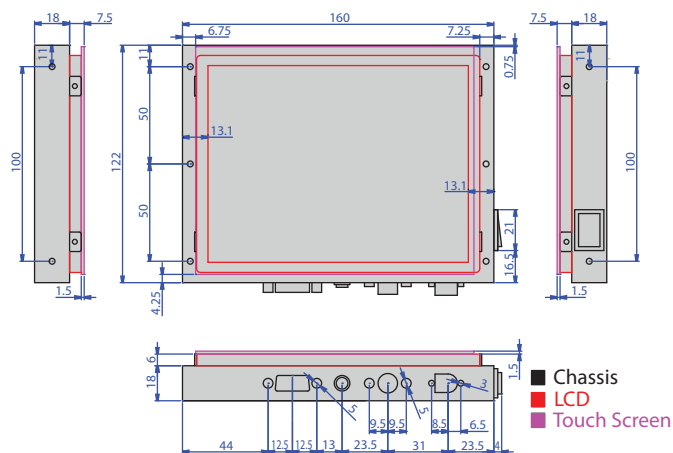
6.4" Open Frame Panel PC with Embedded Board and Touch Screen



### Features

- 6.4" TFT LCD (LG LB064V02)
- VDX-6354 PC/104 CPU Module
- 256MB SDRAM Onboard
- 4-Wire Resistive Touch Screen
- Metal chassis
- AC/DC Power Adapter

### Dimensions



### Ordering Information

**VOX-064-TS** 6.4" Thin Frame Panel PC w/VDX-6354, USB Touch Screen, and Power adapter

Assembly P/N	Description
VOX-LG-064	LG6.4" Metal chassis and accessory cables
LCD-LG064-U-SET	LCD set w/LG6.4", Backlight Inverter, and USB Touch Screen
VDX-6354	Vortex86DX PC/104 CPU Module with 256MB DDR2
LCD-CABLE-LG6.4-15CM	LCD CABLE for VSX/VDX Series
POWER-15W-US (EU)	15W Power Adapter

**VOX-064** 6.4" Thin Frame Panel PC w/VDX-6354 and Power adapter

Assembly P/N	Description
VOX-LG-064	LG6.4" Metal chassis and accessory cables
LCD-LG064-SET	LCD set w/LG6.4" and Backlight Inverter
VDX-6354	Vortex86DX PC/104 CPU Module with 256MB DDR2
LCD-CABLE-LG6.4-15CM	LCD CABLE for VSX/VDX Series
POWER-15W-US (EU)	15W Power Adapter

# Open Frame Panel PC

## VOX-084-TS

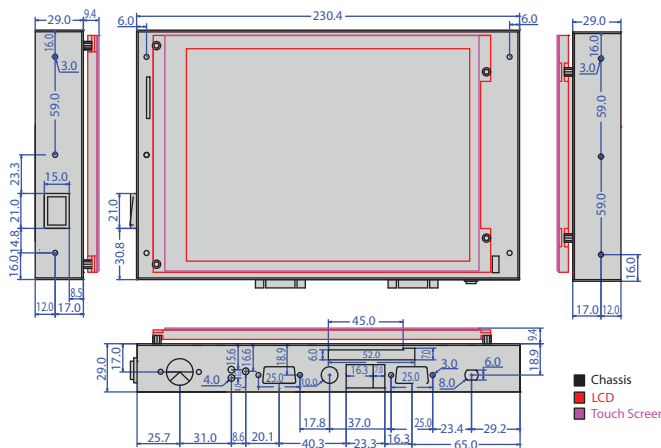
8.4" Open Frame Panel PC with Embedded Board and Touch Screen



### Features

- 8.4" TFT LCD (AUO G084SN03)
- VDX-6328 3.5" CPU Module
- 256MB DDR2 Onboard
- 4-Wire Resistive Touch Screen
- Metal chassis
- AC/DC Power Adapter

### Dimensions



### Ordering Information

**VOX-084-TS** 8.4" Thin Frame Panel PC w/VDX-6328, USB Touch Screen, and Power adapter

Assembly P/N	Description
VOX-AU084-CF	AU8.4" Metal chassis and accessory cables
LCD-AU084-U-SET	LCD set w/AU8.4", Backlight Inverter, LVDS Cable and USB Touch Screen
VDX-6328	Vortex86DX 3.5" CPU Module with 256MB DDR2
PS-047A-3Y	47W Power Adapter

**VOX-084** 8.4" Thin Frame Panel PC w/VDX-6328 and Power adapter

Assembly P/N	Description
VOX-AU084-CF	AU8.4" Metal chassis and accessory cables
LCD-AU84-SET	LCD set w/AU8.4", Backlight Inverter, and LVDS Cable
VDX-6328	Vortex86DX 3.5" CPU Module with 256MB DDR2
PS-047A-3Y	47W Power Adapter

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

Display Product Series

8

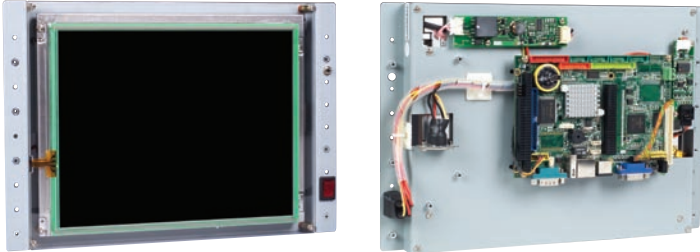
Accessories & Technical Information



# Open Frame Panel PC

## VOX-104-TS

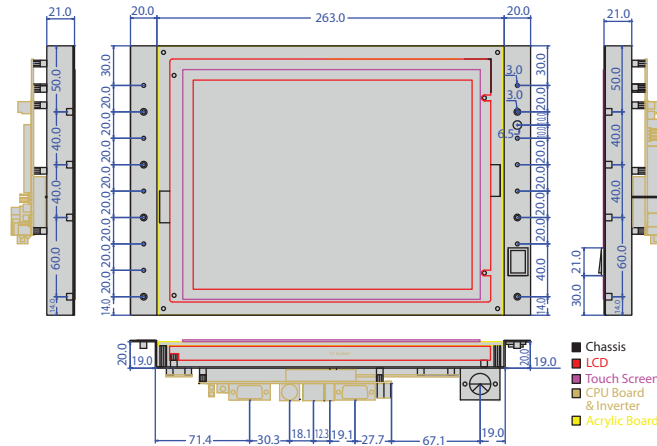
10.4" Open Frame Panel PC with Embedded Board and Touch Screen



### Features

- 10.4" TFT LCD (AU0 G104SN02)
- VDX-6328 3.5" CPU Module
- 256MB DDR2 Onboard
- 4-Wire Resistive Touch Screen
- Metal chassis
- AC/DC Power Adapter

### Dimensions



### Ordering Information

**VOX-104-TS** 10.4" Thin Frame Panel PC w/VDX-6328, USB Touch Screen, and Power adapter

Assembly P/N	Description
VOX-AU104-2	AU10.4" Metal chassis and accessory cables
LCD-AU104-N2-U-SET	LCD set w/AU10.4", Backlight Inverter, LVDS Cable and USB Touch Screen
VDX-6328	Vortex86DX 3.5" CPU Module with 256MB DDR2
PS-047A-3Y	47W Power Adapter

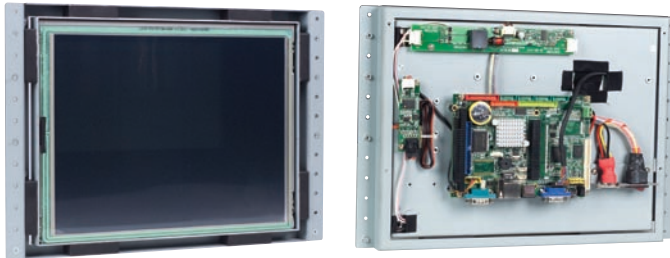
**VOX-104** 10.4" Thin Frame Panel PC w/VDX-6328 and Power adapter

Assembly P/N	Description
VOX-AU104-2	AU10.4" Metal chassis and accessory cables
LCD-AU104-N2-SET	LCD set w/AU10.4", Backlight Inverter, and LVDS Cable
VDX-6328	Vortex86DX 3.5" CPU Module with 256MB DDR2
PS-047A-3Y	47W Power Adapter

# Open Frame Panel PC

## VOX-121-TS

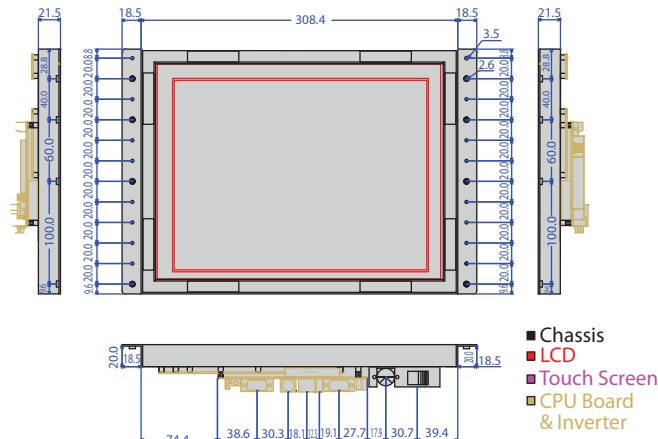
12.1" Open Frame Panel PC with Embedded Board and Touch Screen



### Features

- 12.1" TFT LCD (AU0 G121SN01)
- VDX-6328 3.5" CPU Module
- 256MB DDR2 Onboard
- 4-Wire Resistive Touch Screen
- Metal chassis
- AC/DC Power Adapter

### Dimensions



Unit: mm

### Ordering Information

**VOX-121-TS** 12.1" Thin Frame Panel PC w/VDX-6328, USB Touch Screen, and Power adapter

Assembly P/N	Description
VOX-AU121	AU12.1" Metal chassis and accessory cables
LCD-AU121-U-SET	LCD set w/AU12.1", Backlight Inverter, LVDS Cable and USB Touch Screen
VDX-6328	Vortex86DX 3.5" CPU Moduel with 256MB DDR2
PS-047A-3Y	47W Power Adapter

**VOX-121** 12.1" Thin Frame Panel PC w/VDX-6328 and Power adapter

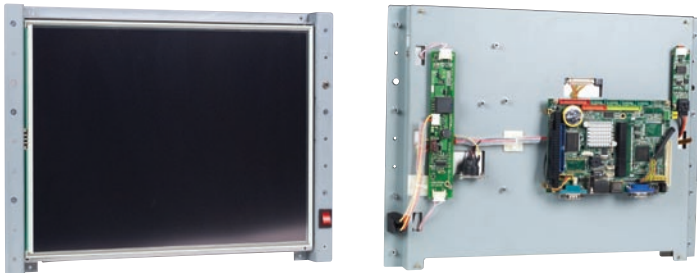
Assembly P/N	Description
VOX-AU121	AU12.1" Metal chassis and accessory cables
LCD-AU121-SET	LCD set w/AU12.1", Backlight Inverter, and LVDS Cable
VDX-6328	Vortex86DX 3.5" CPU Moduel with 256MB DDR2
PS-047A-3Y	47W Power Adapter

1	μProcessor Module
2	Mity/Tiny CPU Module
3	PC/104 CPU Module
4	Half-Size CPU Module
5	3.5" CPU Module
6	Peripheral Module
7	Display Product Series
8	Accessories & Technical Information

# Open Frame Panel PC

## VOX-150-TS

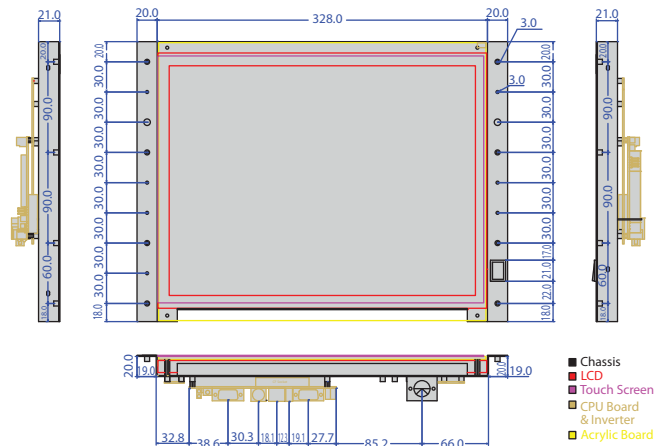
15" Open Frame Panel PC with Embedded Board and Touch Screen



### Features

- 15" TFT LCD (AU0 G150XG01)
- VDX-6328 3.5" CPU Module
- 256MB DDR2 Onboard
- 4-Wire Resistive Touch Screen
- Metal chassis
- AC/DC Power Adapter

### Dimensions



### Ordering Information

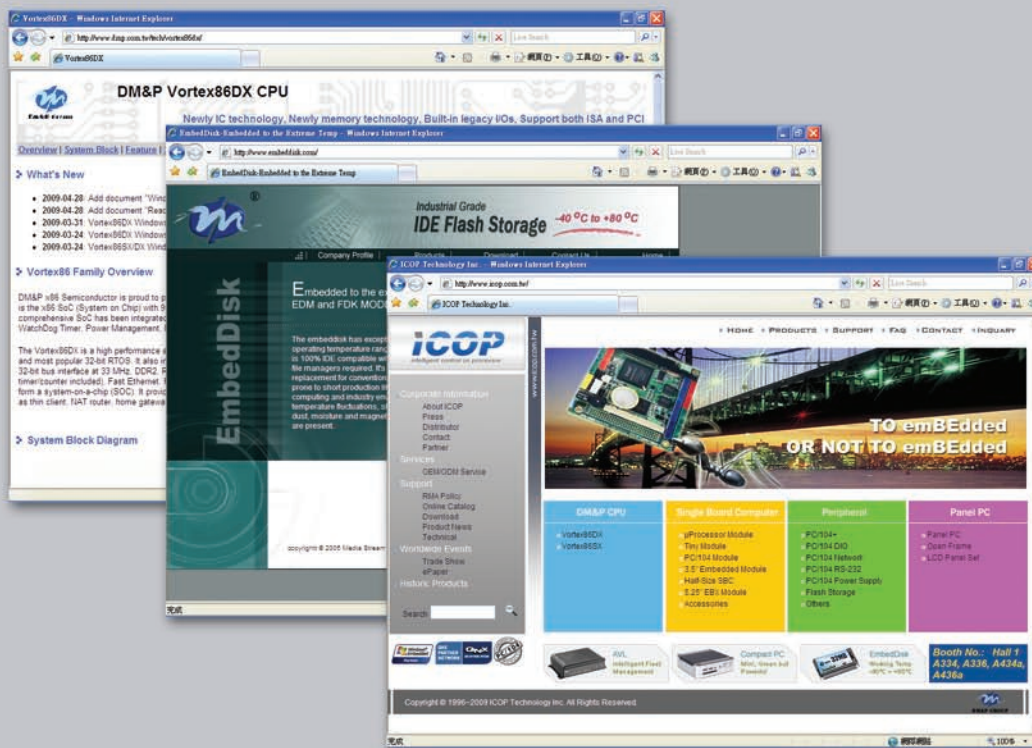
**VOX-150-TS** 15" Thin Frame Panel PC w/VDX-6328, USB Touch Screen, and Power adapter

Assembly P/N	Description
VOX-AU15	AU15" Metal chassis and accessory cables
LCD-AU15"-U-SET	LCD set w/AU15", Backlight Inverter, LVDS Cable and USB Touch Screen
VDX-6328	Vortex86DX 3.5" CPU Module with 256MB DDR2
PS-047A-3Y	47W Power Adapter

**VOX-150** 15" Thin Frame Panel PC w/VDX-6328 and Power adapter

Assembly P/N	Description
VOX-AU15	AU15" Metal chassis and accessory cables
LCD-AU15"-SET	LCD set w/AU15", Backlight Inverter, and LVDS Cable
VDX-6328	Vortex86DX 3.5" CPU Module with 256MB DDR2
PS-047A-3Y	47W Power Adapter

# Accessories & Technical Information 8



	<p>Accessory Cable ..... 102</p> <p>Pin Definition ..... 104</p> <p>EmbedDisk ..... 106</p> <p>Global Sales and Technical Service Website..... 108</p>
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# Accessory Cable



## PS2 KB White

<b>Description</b>	2.0mm PS2 Mouse or Keyboard Cable
<b>Specification</b>	2.0mm 6-pin Female Mini-DIN connector to 2.0mm 5-pin Female MPC2 connector
<b>Cable Length</b>	30cm (12 inches)



## PS2 KB (TEST) Black

<b>Description</b>	2.54mm PS2 Mouse, Dupont Connector
<b>Specification</b>	2.54mm 6-pin Female Mini-DIN connector to 2.0mm 5-pin Female JCT connector (2-pin connection only), include two Philips type screw and nut
<b>Cable Length</b>	30cm (12 inches)



## AT BUS

<b>Description</b>	AT-Bus HDD & FDD Flat Ribbon Cable
<b>Specification</b>	2.54mm 40-pin Socket connector to 2.54mm 40-pin Socket connector & 2.54mm 34-pin Socket connector to 2.54mm 34-pin Socket connector
<b>Number of connectors available</b>	3x 40-pin Socket connector for HDD connections & 3x 34-pin Socket connector for FDD connections
<b>Cable Length</b>	AT-Bus HDD Cable at 45cm (17.7 inches) & AT-Bus FDD Cable at 50cm (19.6 inches)



## PRINT

<b>Description</b>	2.54mm PRINTER Flat Ribbon Cable
<b>Specification</b>	2.54mm 26-pin Socket connector to 25-pin Female D-Sub connector
<b>Cable Length</b>	30cm (12 inches)



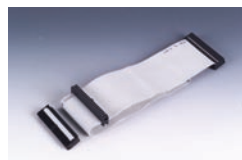
## PRINT (2.0)

<b>Description</b>	2.0mm PRINTER Flat Ribbon Cable
<b>Specification</b>	2.0mm 26-pin Socket connector to 25-pin Female D-Sub connector
<b>Cable Length</b>	30cm (12 inches)



## PRINT+F

<b>Description</b>	2.54mm PRINTER Flat Ribbon Cable
<b>Specification</b>	2.54mm 26-pin Socket connector to 25-pin Female D-Sub connector on a I/O Bracket
<b>Bracket Length</b>	12cm/4.72 inches
<b>Cable Length</b>	30cm (12 inches)



## HDD

<b>Description</b>	2.54mm HDD Flat Ribbon Cable
<b>Specification</b>	2.54mm 40-pin Socket connector to 2.54mm 40-pin Socket connector
<b>Number of connectors available</b>	3 x 40-pin Socket connector for HDD connections
<b>Cable Length</b>	45cm (17.7 inches)



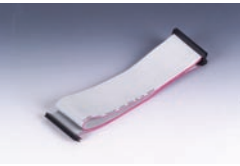
## HDD 44P (2.0)

<b>Description</b>	2.54mm HDD Flat Ribbon Cable
<b>Specification</b>	2.0mm 44-pin Socket connector + 5.25" Molex Plug for Power source to 2.54mm 40-pin Socket connector
<b>Cable Length</b>	19 cm (7.48 inches)



## Audio (2.0)

<b>Description</b>	3.50 Phone Jack Cable
<b>Specification</b>	2.0mm PH-4P to 3.50 Phone Jack Cable for MIC & SOUND
<b>Cable Length</b>	17cm (6.69inches)



### HDD 44P\*3 (52CM)

<b>Description</b>	2.0mm HDD Flat Ribbon Cable
<b>Specification</b>	2.0mm 44-pin Socket connector to 2.0mm 44-pin Socket connector
<b>Number of connectors available</b>	3 x 44-pin Socket connector for HDD connections
<b>Cable Length</b>	52cm (20.47 inches)



### FDD (2.0)

<b>Description</b>	2.0mm FDD Flat Ribbon Cable
<b>Specification</b>	2.0mm 34-pin Socket connector to 2.54mm 30-pin Socket connector
<b>Cable Length</b>	32 cm (12.59 inches)



### RS232

<b>Description</b>	2.54mm RS232 Flat Ribbon Cable
<b>Specification</b>	2.54mm 10-pin Socket connector to 9-pin Male D-Sub connector
<b>Cable Length</b>	30 cm (12 inches)



### RS232 (2.0)

<b>Description</b>	2.0mm RS232 Flat Ribbon Cable
<b>Specification</b>	2.0mm 10-pin Socket connector to 9-pin Male D-Sub connector
<b>Cable Length</b>	30 cm (12 inches)



### VGA

<b>Description</b>	2.54mm VGA Flat Ribbon Cable
<b>Specification</b>	2.54mm 10-pin Socket connector to 15-pin Female High Density D-Sub connector
<b>Cable Length</b>	32 cm (12.59 inches)



### USB (2.54)

<b>Description</b>	2.54mm USB Connector
<b>Specification</b>	2.54mm 10-pin Socket connector to Two USB 4-pin Female Series A Receptacle on a I/O Bracket
<b>Bracket Length</b>	12cm/4.72 inches
<b>Cable specification</b>	4-wire, AWG28, double shielded
<b>Cable Length</b>	31cm (12.2 inches)



### NET 4 x 2 (2.0)

<b>Description</b>	2.0mm Ethernet LAN Flat Ribbon Connector
<b>Specification</b>	2.0mm 8-pin Socket connector to RJ-45 Socket 8P8C
<b>Cable specification</b>	4-wire, AWG28, shielded
<b>Cable Length</b>	17cm (6.69 inches)



### GPIO (2.0)

<b>Description</b>	2.0mm GPIO AWG24
<b>Specification</b>	2.0mm 20-pin Socket connector to Open wires 20-wire
<b>Cable specification</b>	20-wire, AWG24, unshielded
<b>Cable Length</b>	15cm (5.9 inches)



### YKB

<b>Description</b>	PS/2 Mouse & Keyboard Y-Cable
<b>Specification</b>	2.0mm 6-pin Male Mini-DIN connector to Two 2.0mm 6-pin Female Mini-Din connector
<b>Cable Length</b>	19.5cm (7.67 inches)

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

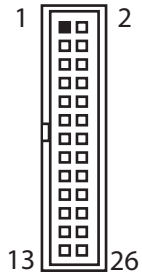
Display Product Series

8

Accessories & Technical Information

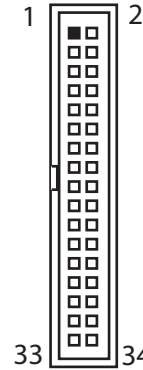
# Pin Definition

## 2.0mm 26-pin box header for Printer



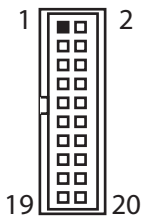
Pin #	Signal Name	Pin #	Signal Name
1	STB-	14	AFD-
2	PD0	15	ERR-
3	PD1	16	PRINIT-
4	PD2	17	SLIN-
5	PD3	18	GND
6	PD4	19	GND
7	PD5	20	GND
8	PD6	21	GND
9	PD7	22	GND
10	ACK-	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	NC

## 2.0mm 34-pin box header for FDD



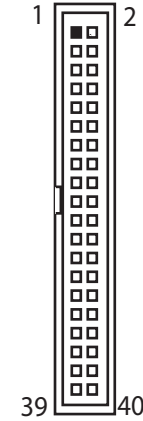
Pin #	Signal Name	Pin #	Signal Name
1	GND	2	DENSEL
3	GND	4	NC
5	GND	6	NC
7	GND	8	INDEX\
9	GND	10	MTR0\
11	GND	12	DS1\
13	GND	14	DS0\
15	GND	16	MTR1\
17	GND	18	DIR\
19	GND	20	STEP\
21	GND	22	WD\
23	GND	24	WG\
25	GND	26	TRO\
27	GND	28	WPA\
29	GND	30	RD\
31	GND	32	HDSSEL\
33	GND	34	DSKCHG\

## 2.0mm 20-pin box header for 16-bit GPIO



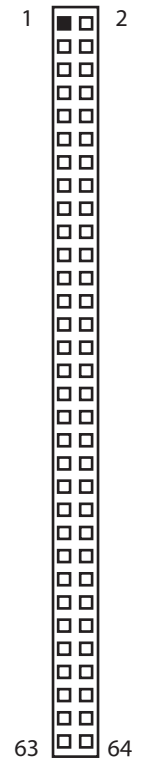
Pin #	Signal Name	Pin #	Signal Name
1	GND	2	VCC
3	GP0	4	GP8
5	GP1	6	GP9
7	GP2	8	GP10
9	GP3	10	GP11
11	GP4	12	GP12
13	GP5	14	GP13
15	GP6	16	GP14
17	GP7	18	GP15
19	VCC	20	GND

## 2.54mm 40-pin box header for IDE



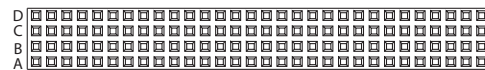
Pin #	Signal Name	Pin #	Signal Name
1	IDERST-	2	GND
3	IDED7	4	IDED8
5	IDED6	6	IDED9
7	IDED5	8	IDED10
9	IDED4	10	IDED11
11	IDED3	12	IDED12
13	IDED2	14	IDED13
15	IDED1	16	IDED14
17	IDED0	18	IDED15
19	GND	20	VCC
21	N/C	22	GND
23	IDEIOW	24	GND
25	IDEIOR	26	GND
27	N/C	28	N/C
29	N/C	30	GND
31	IDEIRQ14	32	IOCS16
33	IDESA1	34	N/C
35	IDESA0	36	IDESA2
37	HDCS-0	38	HDCS-1
39	IDELED	40	GND

## 2.0mm/2.54mm 64-pin x-ISA socket



Pin #	Signal Name	Pin #	Signal Name
1	GND	2	SBHE
3	RSTDRV	4	SD7
5	VCC	6	SD6
7	SD8	8	SD5
9	SD9	10	SD4
11	SD10	12	SD3
13	SD11	14	SD2
15	SD12	16	SD1
17	SD13	18	SD0
19	GND	20	IOCHRDY
21	SMEMW	22	AEN
23	SMEMR	24	SA19
25	IOW	26	SA18
27	IOR	28	SA17
29	SD14	30	SA16
31	SD15	32	SA15
33	MEMCS16	34	SA14
35	IOCS16	36	SA13
37	REFRESH	38	SA12
39	SYSCLK	40	SA11
41	IRQ7	42	SA10
43	IRQ6	44	SA9
45	IRQ5	46	SA8
47	IRQ4	48	SA7
49	IRQ3	50	SA6
51	IRQ10	52	SA5
53	IRQ11	54	SA4
55	BALE	56	SA3
57	VCC	58	SA2
59	OSC	60	SA1
61	GND	62	SA0
63	IRQ12	64	IRQ14

## PCI 104 Bus Signal Assignments



Pin	A	B	C	D
1	GND	NC	+5V	AD00
2	V I/O	AD02	AD01	+5V
3	AD05	GND	AD04	AD03
4	C/BE0	AD07	GND	AD06
5	GND	AD09	AD08	GND
6	AD11	V I/O	AD10	GND
7	AD14	AD13	GND	AD12
8	+3.3V	C/BE1	AD15	+3.3V
9	SERR	GND	SBO	PAR
10	GND	PERR	+3.3V	NC
11	STOP	+3.3V	LOCK	GND
12	+3.3V	TRDY	GND	DEVSEL
13	FRAME	GND	IRDY	+3.3V
14	GND	AD16	+3.3V	C/BE2
15	AD18	+3.3V	AD17	GND
16	AD21	AD20	GND	AD19
17	+3.3V	AD23	AD22	+3.3V
18	IDSEL0	GND	IDSEL1	IDSEL2
19	AD24	C/BE3	V I/O	IDSEL3
20	GND	AD26	AD25	GND
21	AD29	+5V	AD28	AD27
22	+5V	AD30	GND	AD31
23	REQ0	GND	REQ1	V I/O
24	GND	REQ2	+5V	GNT0
25	GNT1	V I/O	GNT2	GND
26	+5V	CLK0	GND	CLK1
27	CLK2	+5V	CLK3	GND
28	GND	INTD	+5V	PCIRST
29	+12V	INTA	INTB	INTC
30	-12V	NC	NC	GND

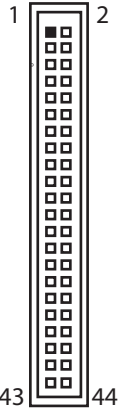
## 2.54mm 8-pin header for Ethernet



Pin #	Signal Name	Pin #	Signal Name
1	TX+	2	TX-
3	RX+	4	LED0
5	LED0+	6	RX-
7	LED1+	8	LED1

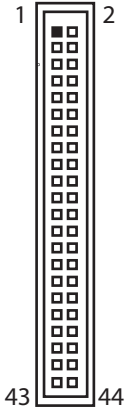
# Pin Definition

## 2.0mm 44-pin LCD box header for Vortex86SX/Vortex86DX series



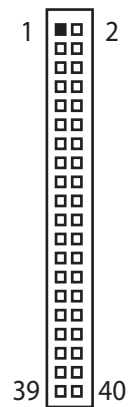
Pin #	Signal Name	Pin #	Signal Name
1	VCC3	2	VCC3
3	LG2	4	LG3
5	LG4	6	LG5
7	NC	8	NC
9	LR0	10	LR1
11	LR2	12	LR3
13	LR4	14	LR5
15	GND	16	NC
17	NC	18	NC
19	NC	20	GND
21	NC	22	NC
23	LB0	24	LB1
25	LB2	26	LB3
27	LB4	28	LB5
29	NC	30	NC
31	LG0	32	LG1
33	GND	34	GND
35	NC	36	LCLK
37	NC	38	LDE
39	NC	40	LHSYNC
41	NC	42	LVSYSNC
43	LBACKL	44	LVDDEN

## 2.0mm 44-pin box header for IDE



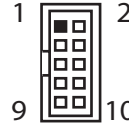
Pin #	Signal Name	Pin #	Signal Name
1	IDERST-	2	GND
3	IDED7	4	IDED8
5	IDED6	6	IDED9
7	IDED5	8	IDED10
9	IDED4	10	IDED11
11	IDED3	12	IDED12
13	IDED2	14	IDED13
15	IDED1	16	IDED14
17	IDED0	18	IDED15
19	GND	20	NC
21	IDEREQ	22	GND
23	IDEIOW-	24	GND
25	IDEIOR-	26	GND
27	ICHRDY	28	GND
29	IDACK-	30	GND
31	IDEIRQ	32	NC
33	IDESA1	34	CBLID
35	IDESA0	36	IDESA2
37	IDECS-0	38	IDECS-1
39	DASP	40	GND
41	VCC	42	VCC
43	GND	44	NC

## PC/104 Connector - 40pin Header Connector (CN2)



Pin#	Signal Name	Pin#	Signal Name
1	GND	2	GND
3	MEMCS16 *	4	SBHE *
5	IOCS16 *	6	LA23
7	IRQ10	8	LA22
9	IRQ11	10	LA21
11	IRQ12	12	LA20
13	IRQ15	14	LA19
15	IRQ14	16	LA18
17	DACK0 *	18	LA17
19	DRQ0	20	MEMR *
21	DACK5 *	22	MEMW *
23	DRQ5	24	SD8
25	DACK6 *	26	SD9
27	DRQ6	28	SD10
29	DACK7 *	30	SD11
31	DRQ7	32	SD12
33	VCC	34	SD13
35	MASTER *	36	SD14
37	GND	38	SD15
39	GND	40	NC

## 2.0mm/2.54mm 10-pin box header for RS-232



Pin #	Signal Name	Pin #	Signal Name
1	DCD1	2	RXD1
3	TXD1	4	DTR1
5	GND	6	DSR1
7	RTS1	8	CTS1
9	RI1	10	NC

## 2.0mm 4-pin wafer for MIC-in



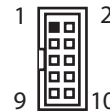
Pin #	Signal Name
1	VREFOUT
2	GND
3	GND
4	MIC1

## 2.0mm 4-pin wafer for Line-out



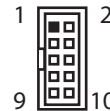
Pin #	Signal Name
1	LOUTR
2	GND
3	GND
4	LOUTL

## 10-pin box header for VGA



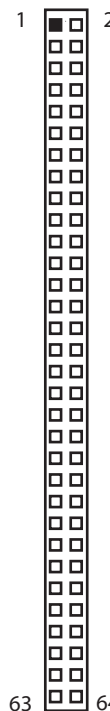
Pin #	Signal Name	Pin #	Signal Name
1	ROUT	2	GND
3	GOUT	4	GND
5	BOUT	6	GND
7	HSYNC	8	GND

## 2.0mm/2.54mm 10-pin box header for USB



Pin #	Signal Name	Pin #	Signal Name
1	VCC	2	VCC
3	-DATA1	4	-DATA0
5	+DATA1	6	+DATA0
7	GND	8	GND
9	GND	10	GND

## PC/104 Connector - 64pin Header Connector (CN1)



Pin#	Signal Name	Pin#	Signal Name
1	IOCHCHK *	2	GND
3	SD7	4	RSTDRV
5	SD6	6	VCC
7	SD5	8	IRQ9
9	SD4	10	-5V
11	SD3	12	DRQ2
13	SD2	14	-12V
15	SD1	16	OVS
17	SD0	18	+12V
19	IOCHRDY	20	GND
21	AEN	22	SMEMW *
23	SA19	24	SMEMR *
25	SA18	26	IOW *
27	SA17	28	IOR *
29	SA16	30	DACK3 *
31	SA15	32	DRQ3
33	SA14	34	DACK1 *
35	SA13	36	DRQ1
37	SA12	38	REFRESH *
39	SA11	40	SYSCLK
41	SA10	42	IRQ7
43	SA9	44	IRQ6
45	SA8	46	IRQ5
47	SA7	48	IRQ4
49	SA6	50	IRQ3
51	SA5	52	DACK2 *
53	SA4	54	TC
55	SA3	56	BALE
57	SA2	58	VCC
59	SA1	60	OSC
61	SA0	62	GND
63	GND	64	GND

1

µProcessor Module

2

Mity/Tiny CPU Module

3

PC/104 CPU Module

4

Half-Size CPU Module

5

3.5" CPU Module

6

Peripheral Module

7

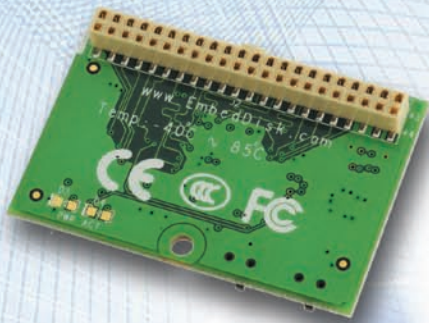
Display Product Series

8

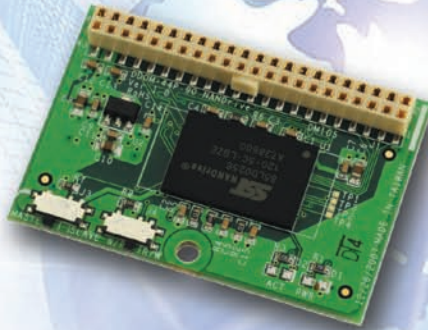
Accessories & Technical Information



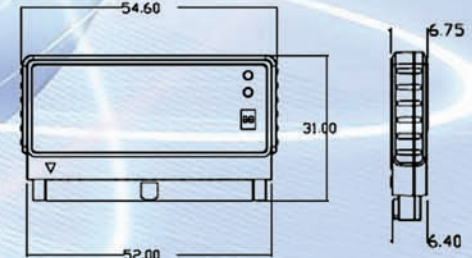
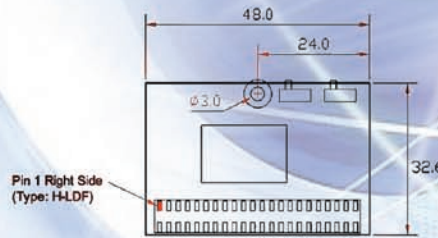
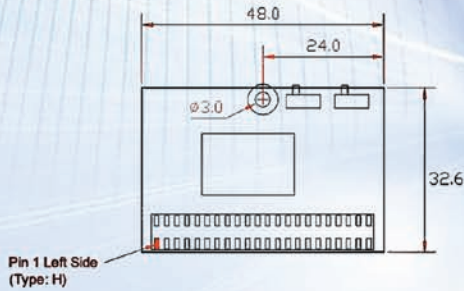
## DDOM-SST-44P-H



## DDOM-SST-44P-HL



## DDOM-SST-44P-V



## Features

- » -40 °C to +85 °C extreme temp range
- » Power & Active LEDs, easy to check work status
- » RoHS Compliant
- » Industrial grade connector, avoid inaccuracy connection
- » Write Protect
- » Low power operation
- » Fixed hole layout
- » Unitized 44 pin IDE
- » ECC for exceptional data reliability
- » Completely solid state – no moving parts
- » Entirely bootable for current embedded O/S
- » 50G operating shock
- » 5G operating vibration
- » 16.6 MB/s burst R/W rate
- » 10 years data integrity

## Product Information

### • Dependable and secure

Designed with advanced IDE flash controller technology, EmbedDisk is 100% compatible with the standard IDE/ATA storage interface without the need for special device driver. This advanced multi-tasking IDE flash controller's integrated error-detection, error-correction, re-mapping and wear-leveling technologies with power hold-up circuit greatly improves data reliability. Its low-power requirement, advanced PIO modes, multi-sector transfer support and LBA addressing can satisfy application with high performance and reliability requirements.

### • Anti Shock & Anti Vibration

Using advanced solid-state storage technology, without moving parts, EmbedDisk is able to perform all of its designated function without being affected by shock and vibration.

### • Wide Operating Temperature

EmbedDisk is designed to support commercial and industrial applications operating in environment exposed to extreme temperature range. The EmbedDisk DDOM series supports -40°C to +85°C operating temperature.

## Ordering information

★ IDE-2.0mm 44pin	★ IDE-2.54mm 40Pin
DDOM-SST-128MB-4GB-44P-H	IDM-128MB-8GB-40P-H-X
DDOM-SST-128MB-4GB-44P-HL	IDM-128MB-8GB-40P-HL-X
DDOM-SST-128MB-4GB-44P-V	IDM-128MB-8GB-40P-V-X



EmbedDisk

Wide Temperature -40°C ~ +85°C

# EmbedDisk

## Specifications

Item	DDOM-SST-128M~256M	DDOM-SST-512G ~ 4G		
IDE Transfer Mode	PIO Mode 0-4 MwDMA Mode 0-2	PIO Mode -6 MwDMA Mode 4 Ultra DMA Mode-4		
Drive Config.	Switch Master/Slave	Switch Master/Slave		
Protocol Mode	N/A	N/A		
Access Mode	N/A	N/A		
<b>Data Transfer Rate</b>		512M	1G	2G
Read Transfer Rate	>10Mbytes	>17Mbytes	>30Mbytes	>30Mbytes
Write Transfer Rate	>5Mbytes	>5Mbytes	>10Mbytes	>20Mbyte
Burst Transfer Rate	16.6MB/sec.			
<b>Serials Physical</b>				
Bus Interface	ATA Compatibility			
Connector	40/44pin IDE/ATA ANSI Standards			
Storage capacity	128M to 4GB			
Sector Size	512 bytes			
Driver Number	Drive 0 or 1			
<b>Environmental Specification</b>				
Operation Temp.	-45°C~+85°C			
Storage Temp.	-65°C~+150°C			
Humidity	10%~95% non-condensing			
Vibration	5G (7~2000Hz)			
Shock	50G/10ms			
<b>System Reliability</b>				
ECC technology	High Reliability based on the internal ECC function			
MTBF	>3,000,000 hours			
R/W Endurance	2,000,000 times (wear-leveling)			
Data integrity	10 years			
<b>Power requirement</b>				
DC input voltage	+5V single power supply operation			
Power mode	Auto Stand-by and sleep mode			
Power consumption	150mA (max.)			
<b>Physical Specification</b>				
Enclosure Material	PC Mechanical Cover and UL-94			
Dimension	44 pin:48 x 32.6 mm (W x H)			

# Global Sales and Technical Service Website

To assist the global ICOP clients, ICOP create the multi-language websites, such as English, Chinese, Japanese, Spanish, Portuguese and Russian, for users to understand ICOP products easily. As most of ICOP clients are skilled technicians, ICOP also create the technical websites, including Vortex86SX, Vortex86DX and EmbedDisk, to help technicians to obtain the solution easily when encountering technical issues. Below are the 5 main websites.

## [www.icop.com.tw](http://www.icop.com.tw)



The main website of ICOP, it contains the newest information, including news & events, product info, user's manual, drivers, etc. If you need information in different languages, please log on ICOP global multi-language websites ([www.icoptech.com](http://www.icoptech.com), [www.icop.com.cn](http://www.icop.com.cn), [www.icop.co.jp](http://www.icop.co.jp), [www.icop.co.uk](http://www.icop.co.uk), [www.icop.co.ir](http://www.icop.co.ir), [www.icop.com.br](http://www.icop.com.br), [www.icop.ru](http://www.icop.ru)).

## [www.dmp.com.tw/tech/vortex86sx](http://www.dmp.com.tw/tech/vortex86sx)



The website contains the detailed information of Vortex86SX, spanning from system block diagram, detail features & functions, hardware reference, software resource to the technical FAQs. Users can easily comprehend their Vortex86SX CPU boards for various applications.

## [www.dmp.com.tw/tech/vortex86dx/](http://www.dmp.com.tw/tech/vortex86dx/)



The website contains the detailed information of Vortex86DX, spanning from system block diagram, detail features & functions, hardware reference, software resource to the technical FAQs. Users can easily comprehend their Vortex86DX CPU boards for various applications.

## [www.embeddisk.com](http://www.embeddisk.com)



Nowadays, IDE Flash Disk is the most popular storage in embedded applications. EmbedDisk series is the industrial grade Flash Disk which is compatible with True IDE standard interface, the whole series include 40-pin and 44pin, 2.5" HDD size and 3.5" HDD size. In this website, you can get all product information and test reports.

For more service and information

ICOP Global Multi-Language Website	
Global Main Website	www.icop.com.tw
English Website (USA)	www.icoptech.com
Japanese Website	www.icop.co.jp
Simplified Chinese Website	www.icop.com.cn
English Website (UK)	www.icop.co.uk
Spanish Website (Brazil)	www.icop.com.br
Iranian Website	www.icop.co.ir
Technical Support & Information	
Global Technical Support	www.icop.com.tw/tech
DM&P Vortex86SX SoC	www.dmp.com.tw/tech/vortex86sx/
DM&P Vortex86DX SoC	www.dmp.com.tw/tech/vortex86dx/
EmbedDisk	www.embeddisk.com/

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µProcessor Module
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