



Operating Guide

EPIA PX-Series Pico-ITX Mainboard

Table of Contents

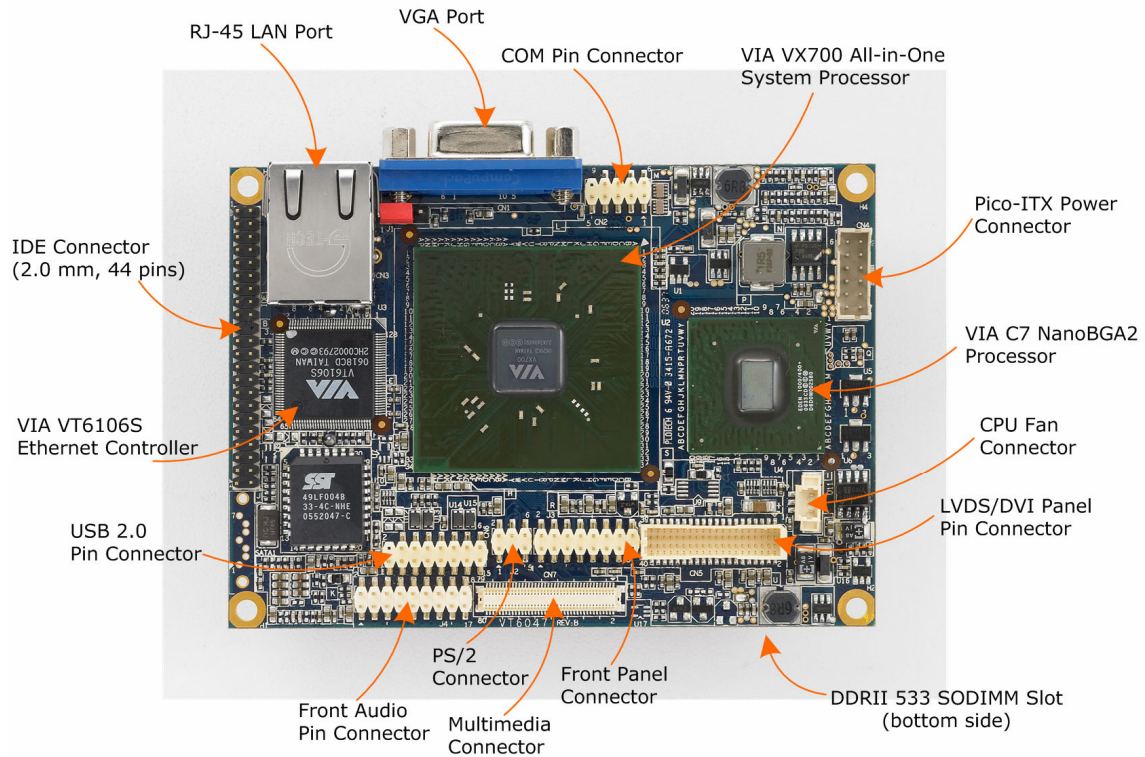
Table of Contents	i
VIA EPIA PX-Series Overview	1
VIA EPIA PX-Series Layout	2
VIA EPIA PX-Series Specifications	3
VIA EPIA PX Processor SKU	4
VIA VX700 All-in-One System Processor Overview	5
VIA EPIA PX-Series Board Dimensions and Height Distribution	6
Power Consumption	8
VIA EPIA PX	8
Power Specifications	10
VIA EPIA PX-Series Microsoft and Linux Driver Support	11
MICROSOFT DRIVER SUPPORT.....	11
LINUX DRIVER SUPPORT	11
Contact	12

VIA EPIA PX-Series Overview

The VIA EPIA PX-Series Pico-ITX Mainboard is an ultra compact native x86 platform optimized for today's demanding embedded and productivity applications. The mainboard is based on the VIA VX700 advanced all-in-one system processor featuring an embedded hardware MPEG-2, MPEG-4 and WMV9 video decoding accelerator. Its integrated VIA UniChrome™ Pro II 2D/3D graphics provide rich digital media performance. With the sizable memory bandwidth of DDR2 533MHz SDRAM DIMM and the high data transfer speeds of ATA-133 and further enhanced by support of 8-Channel High Definition Audio Codec for Smart 7.1 surround sound and SPDIF, the VIA EPIA PX-Series delivers the increased performance levels required by today's embedded digital media applications.

VIA EPIA PX-Series Layout

VIA EPIA PX Pico-ITX Mainboard
(Dimension 10cm x 7.2cm)



VIA EPIA PX-Series Specifications

Model Name	- EPIA PX
Processor	- VIA C7 1.0GHz NanoBGA2 processor
Chipset	- VIA VX700 advanced all-in-one system processor
System Memory	- 1 DDRII 533 SODIMM socket - Up to 1GB memory size
VGA	- Integrated VIA UniChrome™ Pro II 3D/2D AGP graphics with MPEG-2/4 and WMV9 video decoding Accelerator
Onboard IDE	- 1 UltraDMA 133/100 connector (2.0mm 44-pin pin header)
Onboard Serial ATA	- 1 SATA connector
Onboard LAN	- 1 VIA VT6106S 10/100 Mbps Fast Ethernet Controller with Power Management Functions
Onboard Audio	- VIA VT1708A High Definition Audio Codec
Onboard I/O Connectors	- 1 USB pin connector for 4 additional USB 2.0 ports - 1 COM pin connector - 1 PS2 mouse/keyboard pin connector - 1 Fan pin connector for CPU Fan - 1 LVDS/DVI panel pin connector - 1 Audio pin connector for Line-out, Line-in, MIC-in, S/PDIF in, and 7.1 Channels Audio Output - 1 Multimedia connector to support External TV-Out Interface, Video Capture Port Interface and Low Pin Count Interface. (One VT1625M add-on card is required.) - 1 Pico-ITX power connector
Back Panel I/O	- 1 RJ45 LAN Port - 1 VGA Port
BIOS	- Award BIOS - 4/8Mbit flash memory
System Monitoring & Management	- Keyboard-Power-on, Timer-Power-on - System power management, AC power failure recovery - ADI ADM1032 CPU Temperature Monitoring (manufacturing option) - Watch Dog Timer (manufacturing option)
Operating Temperature	0°C ~ 50°C
Operating Humidity	0% ~ 95% (relative humidity; non-condensing)
Form Factor	- Pico-ITX (10-layer) - 10cm x 7.2cm

* The specification is subject to change without prior notice.

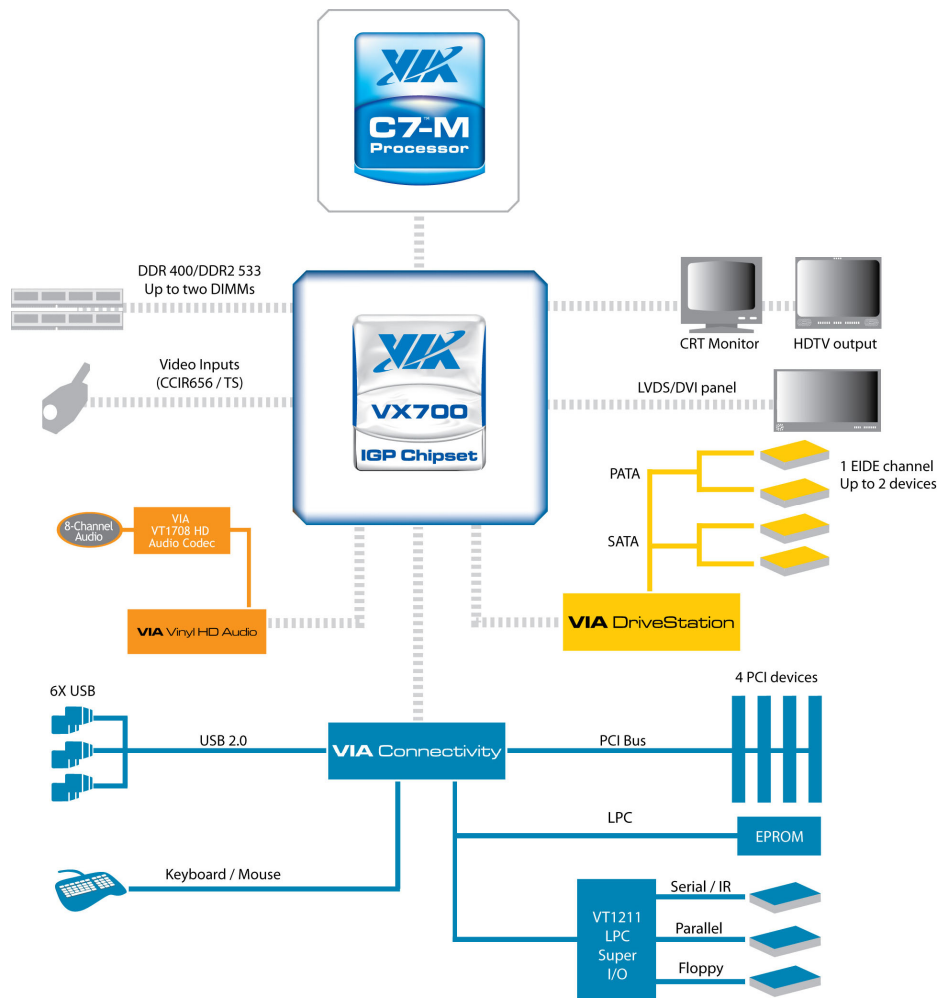
VIA EPIA PX Processor SKU

The VIA EPIA PX-Series is available with the following CPU option:

- 1.0 GHz VIA C7 NanoBGA2 Processor

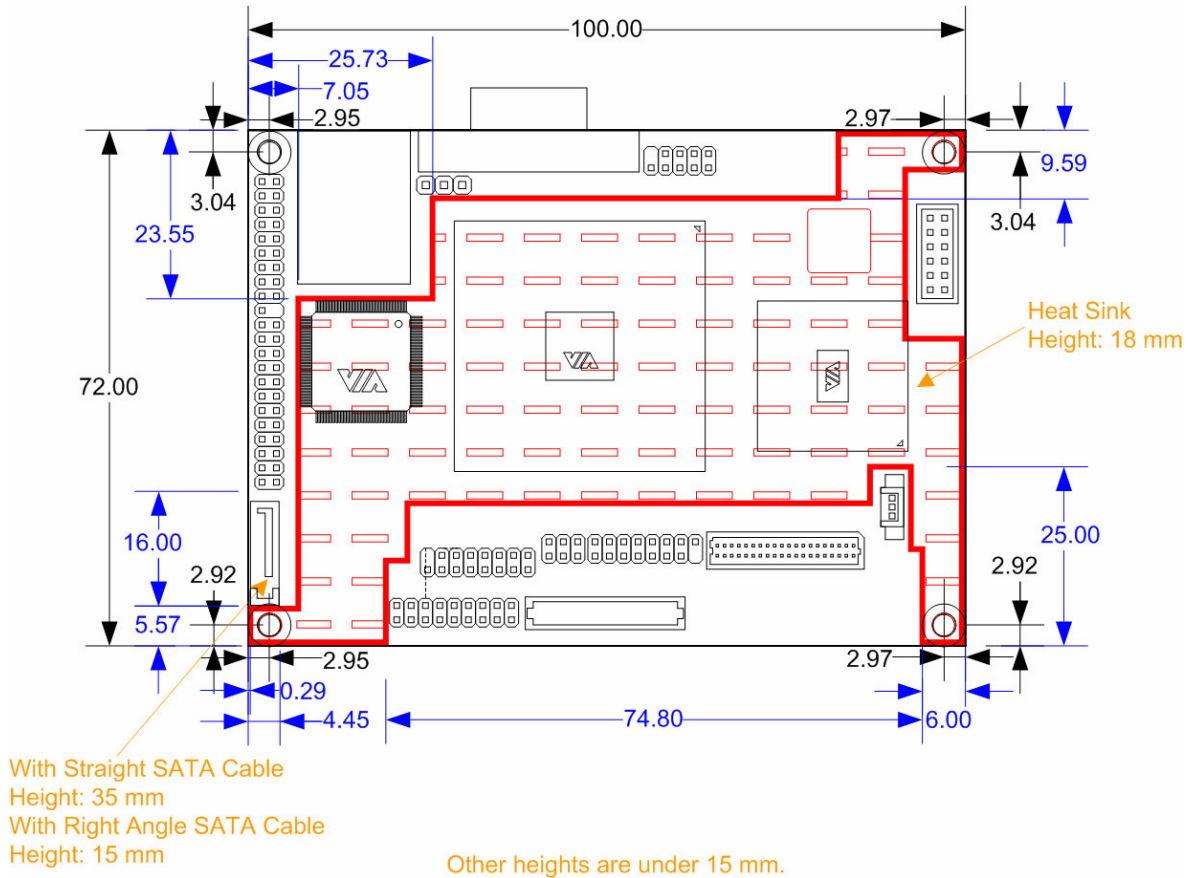
VIA VX700 All-in-One System Processor Overview

The VIA VX700 All-in-One System Processor is designed to enable high quality digital video streaming and DVD playback in a new generation of fanless, small form factor PCs and IA devices. The [VX700](#) features the embedded VIA UniChrome™ Pro II 2D/3D MPEG-2, MPEG-4 and WMV9 video decoding acceleration, DDR2 533MHz support, motion compensation and dual-display support to ensure a rich overall entertainment experience. Outstanding connectivity features include USB 2.0, 10/100 LAN and ATA/133.



VIA EPIA PX-Series Board Dimensions and Height Distribution

Top Side



Power Consumption

Power consumption tests were carried out comparing the VIA EPIA PX running with VIA C7 1.0 GHz NanoBGA2 processor. The following tables are a comprehensive breakdown of the EPIA platform's voltage, amp and wattage values while running common system applications.

VIA EPIA PX

A. Idle

	Measured Voltage	Measured Amp.	Watts
Main Board +3.3V	3.24	0.27	0.88
Main Board +5V	4.94	1.11	5.48
Main Board 5VSB	4.96	0.06	0.30
Main Board +12V	11.87	0.04	0.47
Main Board Power Consumption			7.13

B. Run 3DMark2001 SE

	Measured Voltage	Measured Amp.	Watts
Main Board +3.3V	3.24	0.24	0.78
Main Board +5V	4.93	1.72	8.48
Main Board 5VSB	4.96	0.08	0.40
Main Board +12V	11.87	0.03	0.36
Main Board Power Consumption			10.01

C. Run PassMark

	Measured Voltage	Measured Amp.	Watts
Main Board +3.3V	3.24	0.44	1.43
Main Board +5V	4.94	1.59	7.85
Main Board 5VSB	4.97	0.06	0.30
Main Board +12V	11.88	0.03	0.36
Main Board Power Consumption			9.93

D. Run SAMSUNG Windows Diagnostic V2.07b

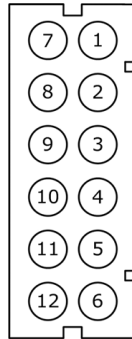
	Measured Voltage	Measured Amp.	Watts
Main Board +3.3V	3.25	0.20	0.65
Main Board +5V	4.94	1.89	9.34
Main Board 5VSB	4.97	0.03	0.15
Main Board +12V	11.87	0.06	0.71
Main Board Power Consumption			10.85

E. Run M.C.C. Winstone 2004

	Measured Voltage	Measured Amp.	Watts
Main Board +3.3V	3.25	0.24	0.78
Main Board +5V	4.94	1.41	6.97
Main Board 5VSB	4.96	0.01	0.05
Main Board +12V	11.88	0.03	0.36
Main Board Power Consumption			8.15

Power Specifications

The EPIA PX utilizes a special 12-pin Pico-ITX power supply connector. Due to the EPIA PX platform's ultra low power requirements a 60 Watt power supply is ample for even the heaviest of multimedia system applications.



7	+3.3V	1	+3.3V
8	+3.3V	2	+5V_SB
9	GND	3	+12V
10	PWRON	4	+5V
11	GND	5	+5V
12	GND	6	PWRGD

VIA EPIA PX-Series Microsoft and Linux Driver Support

Microsoft Driver Support

VIA EPIA PX series offers full support for the complete range of Microsoft operating systems.

For standard operating systems, Windows 2000/XP latest drivers downloads can be found in the VEPD website at www.viaembedded.com.

For embedded operating systems, Windows CE.NET and XP Embedded related driver supports can be found in the VIA Arena website at www.viaarena.com.

Linux Driver Support

VIA EPIA PX mainboards have a very high degree of support under Linux.

Support and drivers are provided through various methods including:

- Drivers provided by VIA
 - Using a driver built into a distribution package
 - Visiting VIA Arena website at www.viaarena.com for latest updates on a monthly basis
- Installing a third party driver (such as the ALSA driver from the Advanced Linux Sound Architecture project for integrated audio)

For OEM clients and system integrators developing a product for long term production, other code and resources may also be made available. You can submit a request either through the [Developers portal](#) on VIA Arena, or through your VEPD support contact. Alternatively, VIA can work further towards providing additional drivers to suite your specific needs.

Contact

For more information on the VIA EPIA PX-Series Pico-ITX Mainboard contact your sales representative or visit our website at www.viaembedded.com

USA

440 Mission Court, Suite 220
Fremont, CA 94539
Tel: (510) 683 3300
Fax: (510) 687 4654
Email: vpsd_sales@viatech.com

Germany

Mottmann Strasse 12
53842 Troisdorf-Oberlar
Tel: 2241 397780
Fax: 2241 3977819
Email: sales@via-tech.de

Taiwan

1F, No. 531, Chung Cheng Road
Hsin Tien, Taipei 231
Tel: (02) 2218 5452
Fax: (02) 2218 5453
Email: mkt@via.com.tw

China

6F, DAscom Tower
9 Shangdi East Road
Haidian District
Beijing, 100085
Tel: 10 6296 3088
Fax: 10 6297 2929
Email: vpsdbj@viatech.com.cn