

## Em-ITX Series

VIA

# EITX-3001

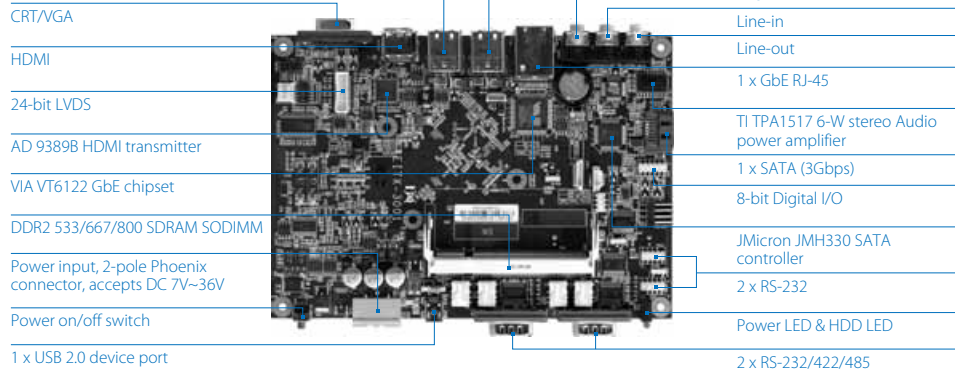
Em-ITX Nano™ E Board with VGA, HDMI, LVDS, GigaLAN, COM, USB & Resistive Touch and DC-in Power

## Features

- VIA Nano™ E processor (1MB L2 Cache)
- Em-ITX form factor: 17cm (W) x 12 cm (L); low profile design
- Dual-sided multiple I/O connector coastlines
- Integrated VIA Chrome9™ HCM, DX9 3D/2D graphics & video processor with MPEG-2, WMV9, VC1, and H.264 video decoding acceleration
- Display interface: Supports one VGA, one 24-bit single channel LVDS, and one HDMI port
- One Gigabit Ethernet
- Two RS-232 and two RS-232/422/485
- Five USB 2.0 host ports and one USB device port
- Supports 5-wire/4-wire resistive touch interface connector
- Fanless and ultra low power consumption



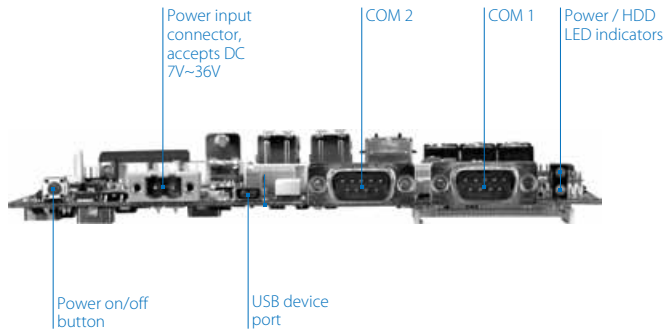
## Board Placement



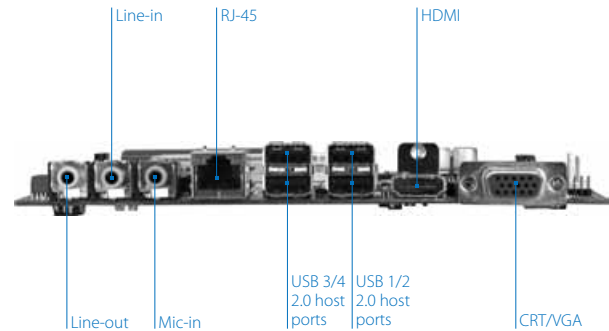
## Specifications

Part Number	EITX-3001-1N13A1	
<b>Processor System</b>	<b>Processor</b>	1.3GHz VIA Nano™ E
	<b>Front Side Bus Speed</b>	800 MHz
	<b>L2 Cache</b>	1 MB
	<b>Chipset</b>	VIA VX855 Media System Processor chipset
	<b>BIOS</b>	AMI BIOS, 8MBit SPI Flash BIOS
	<b>System Power Management</b>	Timers Power On ACPI supported
<b>Memory</b>	<b>Technology</b>	1 x DDR2 800/667/533 MHz 200-pin SDRAM SODIMM socket
	<b>Max. Capacity</b>	Up to 2GB memory size
<b>Graphic</b>	<b>Controller</b>	Integrated VIA Chrome 9™ HCM DX9 3D/2D graphics & video processor, built-in Unified Video Decoding Accelerator, supports MPEG-2, WMV9/VC1, and H.264 video decoding acceleration
	<b>Display Memory</b>	Optimized Unified Memory Architecture (UMA), Supports up to 512 MB frame buffer using system memory
	<b>CRT Interface</b>	Onboard 1 x VGA connector as JVGA1 Supports CRT resolution up to 1920 x 1440
	<b>LVDS Interface</b>	Supports 1 x 24-bit single-channel LVDS interface with inverter control signals by an onboard 2x15-pin wafer box connector as LVDS1 Panel resolution support up to WXGA (1366 x 768) Onboard 5V/3.3V LCD power switch (default at 3.3V)
	<b>HDMI Interface</b>	AD 9389B HDMI transmitter Onboard 1 x dual-link HDMI connector with flange as JHDMI
	<b>Dual Independent Display</b>	Supports CRT + LVDS , CRT + HDMI and LVDS + HDMI at same resolutions, same pixel depths, and same refresh rates
<b>Ethernet</b>	<b>Controller</b>	VIA VT6122 Gigabit Ethernet controller
	<b>Interface</b>	Supports 1 x RJ-45 connector Supports Wake On LAN (WOL) Supports Preboot Execution Environment (PXE)
<b>HD Audio</b>	<b>Controller</b>	VIA VT1708B High Definition Audio Codec Onboard TI TPA1517 6-W stereo Audio power amplifier
	<b>Interface</b>	Supports Line-in, Speaker-out, Mic-in connectors by 3*3.5Ø audio jacks
<b>Serial</b>	<b>USB Host port</b>	Supports 6 x USB 2.0 host ports in: <ul style="list-style-type: none"> <li>• 4 x USB 2.0 host ports by 2 pairs of double mini-DIN connector as USB1~USB4</li> <li>• Reserved 1 x USB 2.0 port by a 1 x 6-pin header with support of individual VCC power for connection with VIA EMIO-1530 Wireless LAN as JWLAN1</li> </ul>
	<b>USB Device Port</b>	Supports 1 x USB device port by a mini-DIN connector
<b>Serial Ports</b>		Fintek F81865 LPC I/O controller Supports 4 x COM ports in: <ul style="list-style-type: none"> <li>• 2 x RS-232/422/485 by two DB-9 connectors as COM 1 and COM 2, configurable via BIOS setup. Supports RS-485 AutoFlow control functions of COM1 and COM2</li> <li>• 2 x RS-232 by two 2x5-pin headers as COM 3 and COM 4</li> </ul>

Front I/O Coastline



Rear I/O Coastline



## Specifications

<b>Part Number</b>	<b>EITX-3001-1N13A1</b>	
<b>Resistive Touch</b>	<b>Controller</b>	EETI ETP-CP-S5XU resistive touch panel controller
	<b>Interface</b>	1 x 5-wire/4-wire resistive touch sensor interface by a 1 x 5pin header as TOUCH _R1
<b>DIO</b>	<b>Digital I/O</b>	1 x 2 x6-pin header. Supports 8-bit GPIO, with 5VDC and 12VDC power source
<b>PS2</b>	<b>Keyboard &amp; Mouse</b>	1 x 2x5-pin header. Supports PS2 keyboard/mouse interface
<b>Storage interface</b>	<b>Serial ATA</b>	JMicron JMH330 SATA controller 1 x SATA II port, maximum data transfer rate up to 300MB/s Onboard power connector output 5V support 2.5" SATA hard disk drive
	<b>Compact Flash</b>	1 x Onboard socket. Supports type I/II CompactFlash disk
<b>H/W Monitoring</b>	<b>Temperature Sensor</b>	Built-in one Thermal Sensor by onboard 1x3-pin headers
<b>System Indicator</b>	<b>Power Status LED</b>	1 x Green color LED
	<b>HDD Activity LED</b>	1 x Red color LED
<b>Watchdog Timer</b>	<b>Output</b>	System reset
	<b>Interval</b>	Programmable 1~255 sec
<b>Onboard I/O Connectors</b>	<b>Front I/O Coastline</b>	1 x HDD & PWR LED 2 x RS-232 / 422 / 485 as COM 1 and COM2 1 x USB device port by a mini-DIN connector 1 x 2-pole of Phoenix power input connector 1 x ATX power on/off switch
	<b>Rear I/O Coastline</b>	1 x VGA connector 1 x Dual-Link HDMI connector with flange as JHDMI 4 x USB 2.0 host port by 2 pairs of double mini-DIN connector as USB1~USB4 1 x RJ45 connector for Gigabit Ethernet connection as J1 3 x 3.5Ø audio jacks as Mic-in Line-in, and Speaker-out
<b>Onboard I/O Pin-headers</b>	<b>Onboard I/O Pin-headers</b>	2 of 2 x 5-pin headers for 2 x RS-232 as COM 3 and COM 4 2 of 1 x 3-pin headers for 5V/12V selection of COM3 and COM4 1 of SATA data connector 1 of SATA power connector support of 5V for 2.5" HDD 1 of 2 x 6-pin header support 8-bit GPIO, with 5VDC and 12VDC power source 1 of 1 x 3-pin header for thermal sensor as SEN1 1 of 1 x 6-pin header for connection with VIA EMIO-1530 wireless LAN card 1 of 2 x 15-pin header for signal channel LVDS interface as LVDS1 1 of 1 x 3-pin header for LCD Power 3.3v/5V selection 1 of 2 x 5-pin header support PS2 keyboard/mouse interface 1 of 1 x 3-pin header for selecting the AT or ATX mode
<b>Onboard DC to DC Power Supply</b>	<b>Input Voltage</b>	Built-in onboard DC-to-DC converter Accepts wide range of Power Input of DC 7V ~ 36V Supports AT and ATX mode, default support ATX mode
	<b>Power Input Connector</b>	1 x 2-pole Phoenix connector
	<b>AT/ATX Selector</b>	Onboard AT/ATX switch by a 3-pin headers
	<b>Fuse Rating</b>	7 A / 125 V
<b>Heatsink</b>	<b>Construction</b>	Aluminum modeling
	<b>Dimensions (WxHxD)</b>	230.45 mm x 34 mm x 124.8 mm

## Specifications

<b>Part Number</b>	<b>EITX-3001-1N13A1</b>	
<b>Physical Characteristics</b>	<b>Form Factor</b>	Em-ITX
	<b>Board Dimension</b>	17 cm (W) x 12 cm (L)
	<b>Weight</b>	1 Kg (net weight of board plus heatsink only)
<b>Environmental Specification</b>	<b>Operating Temperature</b>	-10°C ~ 60 °C
	<b>Storage Temperature</b>	-20°C ~ 70 °C
	<b>Operating Humidity</b>	10% ~ 90%, relative humidity, non-condensing
<b>Software Compatibility</b>	<b>Operation System</b>	Microsoft Windows XP, Windows 7, Microsoft Windows XP Embedded Standard, Windows Embedded Standard 7, Linux Debian 6 (Kernel 2.6.32)

## Ordering Information

Part Number	System Built-in CPU	Description
EITX-3001-1N13A1	1.3GHz Nano™ E	1.3GHz Nano™ E CPU Based Fanless Em-ITX board, with 1 x VGA, 1 x LVDS, 2 x RS-232/422/485, 2 x RS-232, 5 x USB 2.0 Host, 1 x USB Device, 1 x Resistive Touch, 1 x GbE, 1 x SATA, DC-in 7~36V
EITX-3001-2N13A1	1.3GHz Nano™ E	EITX-3001-1N13A1, with full cable kit

## Optional Accessories

\*Note: The optional accessories may have minimum ordering quantity limitation. Please contact VIA Sales representative for more details.

<b>External AC-to-DC Adapter and Power Cable</b>	
Part Number	Description
99G63-020246	AC-to-DC adapter, DC 19V/90W with 2-pole Phoenix Power Plug
99G33-02032C	Power cable, 180cm, USA type
99G33-02033C	Power cable, 2-pin 180cm, Europe type
99G33-02034C	Power cable with PSE mark, 180 cm for Japan

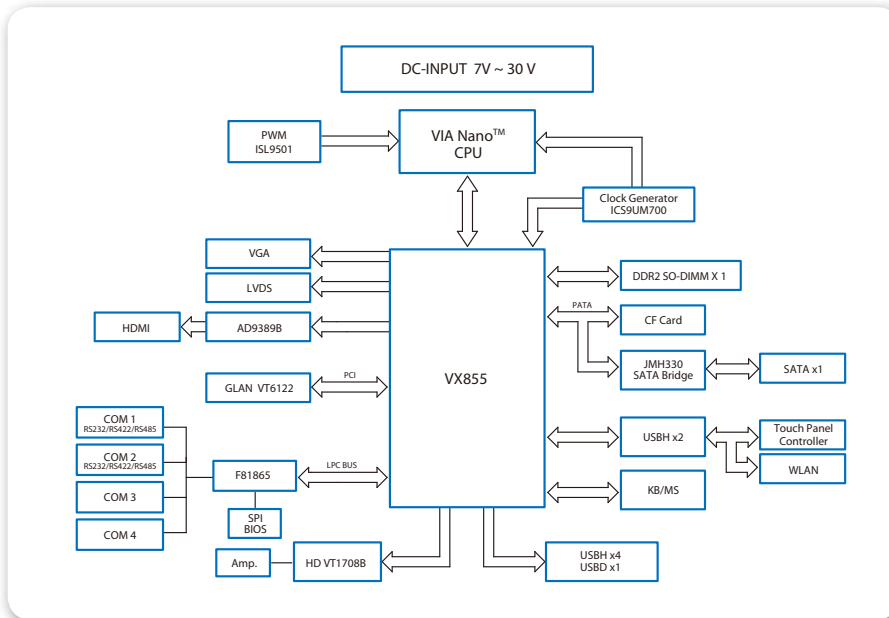
<b>Functional I/O Cable</b>	
Part Number	Description
99G33-240165	SATA DATA cable Right Angle, with Latch
99G33-020655	SATA Power cable, Only Support 5V for 2.5" HDD
99G33-250074	Power cable, 2-pole Phoenix plug to DC-Jack
99G33-10048C	USB to Mini USB cable
99G33-130012	PS/2 Keyboard and Mouse Y-Cable
99G33-080185	Digital I/O cable
99G33-290010	Thermal Sensor cable
99G33-080127	1-port COM port cable
99G33-02096K	DC Power extension cable, AVT-VIA-044, 20 cm
99G33-02097K	DC Power extension cable, AVT-VIA-045, 20 cm
99G33-300011	HDMI to DVI-D adapter cable

<b>WLAN USB Module</b>	
Part Number	Description
EMIO-1530-A0A1	802.11 b/g Wireless LAN USB module for USA
EMIO-1530-A1A1	802.11 b/g Wireless LAN USB module for Europe

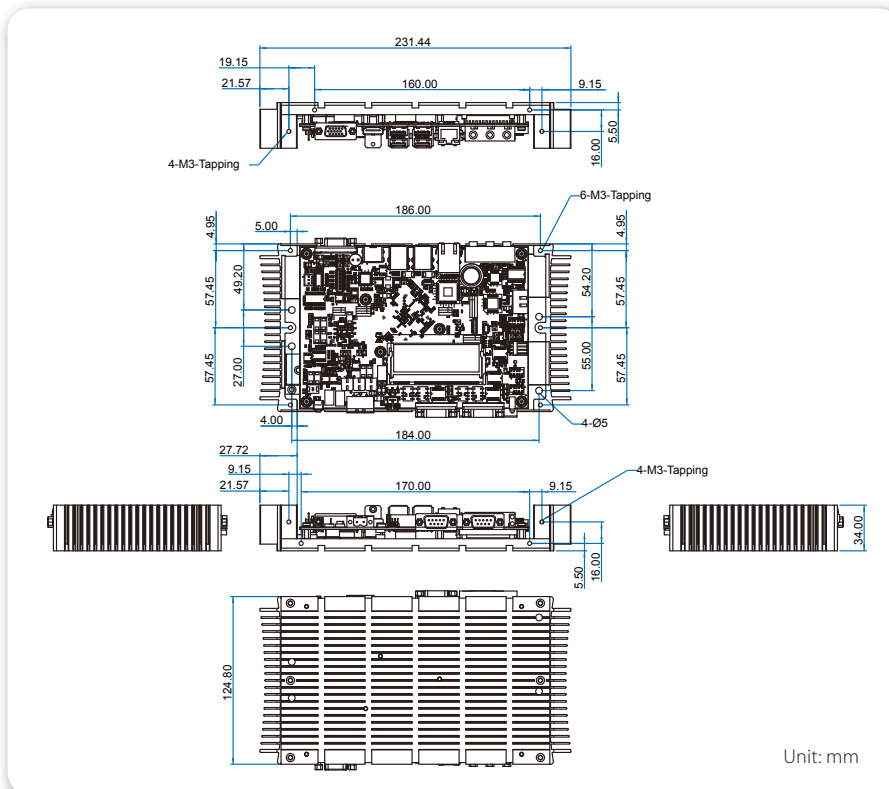
<b>Embedded OS (only available for OEM service)</b>	
Part Number	Description
POS-MEXSLI-ENS00	Windows XP Embedded Standard Image & License for EITX-3001 English Version
POS-ME7SLI-ENS00	Windows Embedded Standard 7 32-bit Image & License for EITX-3001 English Version
POS-DLNXLI-ENS03	Debian Linux 6 Image & License for EITX-3001 English Version

<b>Certificated RAM Module, Flash Disk, and 2.5" Hard Disk Drive</b>	
Part Number	Description
99G06-010598	2GB DDR2 800MHz, 128Mx8 SDRAM SODIMM, Industrial Grade, 0°C ~ 85°C
99G06-010588	1GB DDR2 800MHz, 128Mx8 SDRAM SODIMM, Industrial Grade, 0°C ~ 85°C
99G61-060011	1GB Compact Flash Disk, Industrial Grade, -40°C ~ 85°C
99G61-060021	2GB Compact Flash Disk, Industrial Grade, -40°C ~ 85°C
99G61-060031	4GB Compact Flash Disk, Industrial Grade, -40°C ~ 85°C

## Block Diagram



## Dimensions



## Packing List

### Items for EITX-3001-1N13A1

- 1 x EITX-3001 board
- 1 x Mini-jumper pack
- 1 x SATA data cable
- 1 x SATA power cable (Supports 2.5" HDD only)
- 1 x Power cable, 2-pole Phoenix plug to DC-Plug
- 1 x USB to Mini USB cable

### Items for EITX-3001-2N13A1

- 1 x EITX-3001 board
- 1 x Mini-jumper pack
- 1 x SATA data cable
- 1 x SATA power cable (Supports 2.5" HDD only)
- 1 x Power cable, 2-pole Phoenix plug to DC-Plug
- 1 x USB to Mini USB cable
- 1 x PS/2 Keyboard and Mouse Y-Cable
- 1 x Digital cable
- 1 x Thermal Sensor cable
- 2 x COM port ribbon cable
- 1 x DC Power extension cable, AVT-VIA-044, 20 cm
- 1 x DC Power extension cable, AVT-VIA-045, 20 cm