

## Mainboard Diagram



## J7F2 Mini-ITX Motherboard Series

- VIA CN700 Northbridge + VT8237RP Southbridge Chipsets
- Support VIA C7 Nano-BGA processor
- Support Front Side Bus 400/800MHz
- Single Channel DDR2 533 Memory DIMM
- Support 2 Serial ATA Devices with RAID 0, 1
- Support 2xAD Connector With Expansion Daughter-boards
- Ethernet LAN Supported
- AC'97 6 Channel Audio CODEC
- VIA VT6307S IEEE1394a Controller for J7F2E / J7F2WE
- VIA VT1622A TV Encoder for J7F2W / J7F2WE
- 17 x 17cm Mini-ITX Form Factor



## Features and Benefits

### Embedded VIA C7 Processor with 21 mm NanoBGA2 Technology

The new VIA C7™ processor is the smallest, lowest power, most efficient and most secure native x86 processor in the world. Built on the advanced VIA CoolStream™ architecture, the 'Esther'core of the VIA C7 processor is designed to extend the digital lifestyle by combining robust performance of up to 2.0GHz with ultra low power consumption and highly efficient heat dissipation.

### VIA CN700 Digital Media Chipset and VT8237RP Southbridge Chipset

The first chipset to support the new VIA C7™ processor family, the VIA CN700 is fully optimized to provide an outstanding HD digital media experience. Featuring the all new high bandwidth V4 bus as well as support for DDR2 memory modules, the VIA CN700 delivers a highly advanced solution for developers interested in designing a wide range of powerful embedded and desktop devices. When combined with solutions such as the market-leading VIA VT8237R South Bridge and a broad array of VIA companion chips, the VIA CN700 provides a comprehensive range of storage, multimedia and connectivity features, including native Serial ATA with RAID functions, 6-channel Audio, 10 / 100 Ethernet, and USB2.0.

### MPEG-2 Decoding Acceleration

Enhanced digital media performance is ensured with support for SSE2 and SSE3 multimedia instructions and a full-speed Floating Point Unit (FPU), while all VIA C-Series mobile chipsets integrate hardware MPEG-2 decoding acceleration for flawless digital video playback and streaming, Voice over IP telephony and video conferencing, and much more.

### VIA Padlock Security Engine

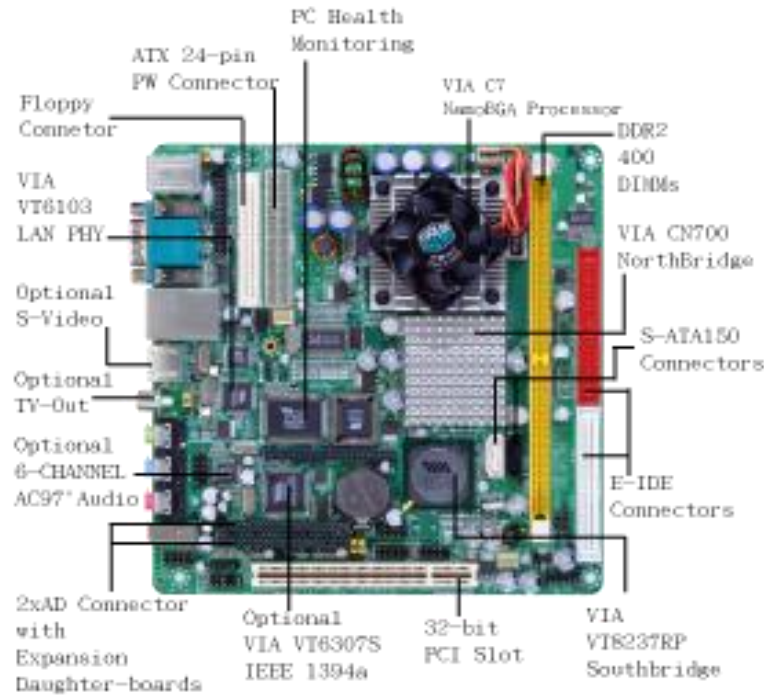
In addition to the world's best random number generator (RNG) and AES Encryption Engine in the previous processor generation, the VIA PadLock Security Engine in the VIA C7 processor adds SHA-1 and SHA-256 hashing for secure message digests, and a hardware based Montgomery Multiplier supporting key sizes up to 32K in length to accelerate public key cryptography, such as RSA™. The VIA C7 also provides NX Execute Protection, providing protection from malicious software such as worms and viruses, and is used in Microsoft® Windows® XP with SP2. Integrating security directly onto the processor die ensures speeds and efficiency many times that available in software, yet with negligible impact on processor performance.

### Targets at High Growth Markets: Digital Home / Digital Office / Digital World

- Personal electronics such as personal video recorders (PVR), set top boxes, home theatres, digital audio centers, etc.
- Mini PCs / Green clients / Quiet desktop PCs / High density servers
- Home server appliances / Public information/entertainment kiosks / Point-of-Sales systems / Intelligent displays / Edge networking devices / Hospital monitoring systems / Municipal control & monitoring systems

## Rear I / O

<b>J7F2 ITX Motherboard Series</b>	<b>J7F2E ITX Motherboard Series</b>
<b>J7F2W ITX Motherboard Series</b>	<b>J7F2WE ITX Motherboard Series</b>



## Mainboard Specifications

■ <b>CPU</b>	<ul style="list-style-type: none"> <li>■ Embedded VIA NanoBGA C7 Processor @ FSB 400/800MHz</li> <li>■ VIA 1.0 GHz Core Clock CPU Included</li> </ul>
■ <b>Chipset</b>	<ul style="list-style-type: none"> <li>■ VIA CN700 North Bridge Chipset + VT 8237RP South Bridge Chipset</li> </ul>
■ <b>Memory</b>	<ul style="list-style-type: none"> <li>■ 1 * 240-pin DIMM Sockets for unbuffered DDR2-533 memory up to 1 GB</li> </ul>
■ <b>Expansion Slots</b>	<ul style="list-style-type: none"> <li>■ 1 * 32-bit PCI Slot / 1 * 2xAD Connector with Expansion Daughter Boards</li> </ul>
■ <b>Storage</b>	<ul style="list-style-type: none"> <li>■ 4 * Ultra DMA 133 / 100 / 66 IDE Devices Support</li> <li>■ Embedded VIA VT8237RP South Bridge Chipset Supports 2 SATA HDDs with RAID 0, 1 Function.</li> </ul>
■ <b>Audio</b>	<ul style="list-style-type: none"> <li>■ <b>VIA VT1617A</b> 6-Channel AC 97' Audio CODEC</li> </ul>
■ <b>Ethernet LAN</b>	<ul style="list-style-type: none"> <li>■ VIA VT6103CL 10 / 100 PCI LAN PHY</li> </ul>
■ <b>USB</b>	<ul style="list-style-type: none"> <li>■ Embedded 8 * High Speed USB @ 480 Mbit / s</li> </ul>
■ <b>Special Features</b>	<ul style="list-style-type: none"> <li>■ Advanced Power Design that supports NanoBGA VIA C7 Processor</li> <li>■ 2xAD Connector With Expansion Daughter Boards</li> </ul>
■ <b>Rear Panel I / O</b>	<ul style="list-style-type: none"> <li>■ 2 * High Speed USB Connectors @ 480 Mbit / s</li> <li>■ 1 * Serial Port / 1 * D-Sub 15-pin VGA Connector</li> <li>■ 1 * PS / 2 Mouse &amp; 1 * PS/2 Keyboard / 1 * RJ45 Connector / 1 * Audio I / O</li> <li>■ 1 * IEEE 1394a Connector for J7F2E &amp; J7F2WE ITX motherboards</li> <li>■ 1 * S-Video Port &amp; 1 * RCA Conn. for TV-Out and S/PDIF-Out</li> </ul>
■ <b>Internal I / O</b>	<ul style="list-style-type: none"> <li>■ 3 * High Speed USB Headers @ 480 Mbit / s for 6 USB 2.0 Ports</li> <li>■ CPU / Chassis Fan Connectors / 25-pin Parallel Header / 9-Pin COM2 Header</li> <li>■ 1 * 12V 4-pin ATX Power Connector and 1 * 24-pin ATX Power Connector</li> <li>■ CD / AUX Audio in &amp; SPEAK Out</li> <li>■ 1 * 9-Pin IEEE 1394a Connector</li> </ul>
■ <b>BIOS</b>	<ul style="list-style-type: none"> <li>■ Award 4 MB Flash ROM</li> </ul>
■ <b>Form Factor</b>	<ul style="list-style-type: none"> <li>■ Mini-ITX Form Factor (17x17cm)</li> </ul>

## Expansion Daughter-boards (Optional)



For 2xCOM Ports Added



For 4xCOM Port Added



Card Bus Type I + II Supported  
Expansion Interface With CF Compatible  
Card Reader



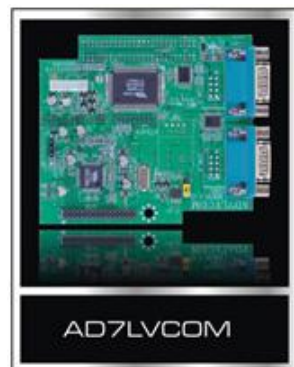
IDE Interface Supported CF Compatible  
Disk On Module



- Extended D-Sub 15-pin and DVI Connectors
- VIA VT6136 Support LVDS signal for LVDS Panel
- VIA VT6132A Support DVI digital video signal Output



For 2<sup>nd</sup> or 2<sup>nd</sup>, 3<sup>th</sup>, 4<sup>th</sup> 10/100 or  
10/100/1000 Ethernet LAN



- LVDS Panel Controller and Serial Ports
- VIA VT6136 Support LVDS signal for LVDS Panel
- 2 Serial Ports support RS232 Communication Port



**12V Mini-ITX Power supply**  
 - 60Watt DC-DC power supply  
 - ATX standard compliant  
 - 12V operation  
 - 100% silent, small footprint

