



mITX-945E-P

Mini-ITX Embedded Motherboard with PCI Expansion Slots

Features

- Mini-ITX form factor with PCI expansion slots
- Processors
 - Intel® Core™ 2 Duo, Core Duo, and Core Solo, PGA(mPGA478M)
 - Intel® Celeron® M, PGA(mPGA478M)
- 945GME/ICH7M chipset combination
- Up to 4 Gbyte DDR2 SDRAM, 200-pin SODIMM
- Graphics
 - VGA and LVDS
- PCI expansion slots
- Two Gigabit Ethernet ports
- Four USB 2.0 ports on rear panel
 - Additional four ports onboard
- Four COM ports, three on rear panel, one onboard
- Two SATA interfaces with SATA 1.0 support
- Up to two IDE devices
- Audio
- Temperature, voltages and fan alarms
- Energy efficiency
 - Wake-on events (PS/2, USB, LAN, Ring, RTC)
 - Supports ACPI specification 1.0a
 - Microsoft®/Intel APM 1.2 compliant
 - AC power failure recovery
- RoHS compliant

Mini-ITX is an open-architecture with industry-wide acceptance that provides for product longevity and stability. mITX-945E-P is an embedded motherboard in the Mini-ITX form factor with expandable I/O functionality through off-the-shelf PCI slot cards.

The single board computer features a choice of Intel's Core 2 Duo, Core Duo, Core Solo or Celeron M processors. The processor options deliver performance-per-watt improvements and provide an excellent choice for system integrators with high performance requirements.

Using two SODIMM sockets, the four Gbytes of DDR2 memory can be adjusted, on demand, to satisfy an application's requirements. The mITX-945E-P is well equipped with two Gigabit Ethernet ports supporting transmissions of 10 Mbps, 100 Mbps or 1 Gbps, up to eight USB ports and four COM ports. Also supported are various mass storage devices, including a choice of two SATA channels and up to two IDE devices.

For superior graphic performance, the mITX-945E-P features integrated analog CRT and LVDS interfaces along with the Intel Dual-Frequency Graphic Technology, Intel Smart 2D Display Technology, Intel Gen 3.5 Integrated Graphics Engine and Dual Independent displays. Coupled with the audio port, it lends itself to a range of multimedia implementations.

mITX-945E-P is powered via a 20-pin ATX power connector.

The mITX-945E-P is well suited for industrial environments where shock, vibration and extended temperature operation are not required. Based on mobile processors and chipset, the mITX-945E-P design limits the power dissipation yet still offers high performance. For even higher platform performance requirements see mITX-M965-P.

The product is RoHS compliant.

mITX 945E-P Mini-ITX Embedded Motherboard with PCI Expansion Slots

Specifications

Processor

- Intel Core 2 Duo/ Core Duo/ Core Solo processor
 - 667/533 system data bus
- Intel Celeron M processor
 - 533 MHz system data bus
- Processor socket: mPGA478M

Chipset – Intel

- Intel 945GME Express Chipset
- Intel 82801GBM I/O Controller Hub (ICH7M)

Memory

- Two 200-pin SODIMM sockets
- Supports up to 4 Gbyte of DDR2 SDRAM
 - 400 MHz, 533 MHz and 667 MHz
 - Dual channel (128 bit)

Graphics Features

- Onboard graphics features
 - Analog CRT, 400 MHz RAMDAC
 - Up to UXGA (1600 x 1200)
 - LVDS interface
 - Up to UXGA (1600 x 1200)
 - TFT panel support up to 1x 24 bpb (single channel); 2x 24 bpb (dual channel)
- Internal graphics features, DVMT 3.0 support
 - Intel Dual-Frequency Graphics Technology
 - Intel Smart 2D Display Technology
 - Dual independent displays
 - Intel Gen 3.5 Integrated Graphics Engine

Audio

- Realtek ALC655 AC'97 audio CODEC
- 16-bit stereo full-duplex CODEC (48 KHz sampling)
- High quality differential CD input
- S/PDIF interface
- 5.1 channel audio output

LAN

- Two Marvell 88E8053 PCI Express Gigabit controllers
- Supports 10 Mbps, 100 Mbps and 1 Gbps
- IEEE 802.3 and IEEE 802.3ab compliant

Expansion

- 1x PCI slot for PCI card or Riser for up to three PCI cards

Serial ATA Interface

- Two Serial ATA 1.0 interfaces
- Supports AHCI interface

IDE Interface

- Up to two IDE devices
- Ultra ATA 100/66/33

I/O Connectors

- 1x CompactFlash
- 2x Connector for additional four USB 2.0 ports
- 1x COM
- 1x LCD brightness
- 1x LVDS LCD panel
- 1x LCD/inverter power
- 1x LCD AUX power
- 1x Digital IO
- 1x Front audio (Line-Out, Mic-In)
- 1x CD-In internal audio
- 1x S/PDIF
- 1x IrDA
- 2x SATA, 1x IDE
- 1x Floppy
- 1x 20-pin ATX power
- 1x Front panel
- 1x Chassis open
- 2x fans

Rear Panel I/O Ports

- Mini-DIN-6 PS/2 keyboard port
- Mini-DIN-6 PS/2 mouse port
- 3x DB9 serial port
- 1x DB-15 VGA port
- 2x RJ45 LAN port
- 4x USB 2.0 ports
- Mic-In, Line-In and Line-Out

BIOS

- Award BIOS
- 4 Mbit Flash memory

Monitoring

- Temperature, voltages, fans, failures
- Watchdog

Temperature

- Operating: 0° C to +60° C
- Storage: -40° C to +85° C

Humidity

- Operating: 10% to 90%

PCB

- Dimensions
 - Mini-ITX form factor
 - 170 mm x 170 mm (6.7" x 6.7")

Ordering Information

MI945E00P2401

Mini-ITX embedded motherboard with PCI slot, for PGA processors, without memory

About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

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Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

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