



# mITX-945E-ER

## Mini-ITX Embedded Motherboard with PCI Express and PCI Expansion Slots

### Features

- Mini-ITX form factor with PCI Express and PCI expansion slots
- Processors
  - Intel® Core™ 2 Duo, PGA (mPGA478P)
  - Intel® Core™ Duo, PGA (mPGA478P)
  - Intel® Celeron® M, PGA (mPGA478P)
- 945GME/ICH7R chipset combination
- Up to 2 Gbyte DDR2 SDRAM, 240-pin DIMM
- Graphics
  - VGA, 2048 x 1536
- One Gigabit Ethernet port
- Four USB 2.0 ports on rear panel
  - Additional two ports onboard
- Two COM ports
- Four 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-ER is an embedded motherboard in the Mini-ITX form factor with expandable I/O functionality through off-the-shelf PCI or PCI Express slot cards.

The single board computer features a choice of Intel's Core 2 Duo, Core Duo, 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 one DIMM socket, the 2 Gbytes of DDR2 memory can be adjusted, on demand, to satisfy an application's needs. The mITX-945E-ER is well equipped with one Gigabit Ethernet port supporting transmissions of 10 and 100 Mbit/s, up to six USB ports, and two COM ports. Also supported are various mass storage devices, including choice of four SATA channels and/or up to two IDE devices. The SATA ports support RAID 0, 1, 0+1 and 5.

The mITX-945E-ER features an integrated analog CRT along with the Mobile Intel® Graphics Media Accelerator 950 supporting up to 2048 x 1536 resolution. Coupled with a high-definition audio port, it lends itself to a range of multimedia implementations.

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

The mITX-945E-ER is well suited for industrial environments where shock, vibration, and extended temperature are not required. Based on mobile processors and chipset, the mITX-945E-ER 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-ER Mini-ITX Embedded Motherboard with PCI Express and PCI Expansion Slots

## Specifications

### Processor

- Intel Core 2 Duo mobile processor
- Intel Core Duo mobile processor
- Intel Celeron M processor
  - 667/533 MHz system data bus
- Processor socket: mPGA478P

### Chipset - Intel

- Intel 945GME Express Chipset
- Intel 82801GR I/O Controller Hub (ICH7R)

### Memory

- One 240-pin DIMM socket
- Supports up to 2 Gbyte of DDR2 SDRAM
  - 400 MHz, 533 MHz and 667 MHz
  - 256, 512 and 1024 Mbit in x8 and x16

### Graphics Features

- Onboard graphics features
  - Intel® Graphics Media Accelerator 950
  - 250 MHz core render clock and 200 MHz core display clock
  - Up to 224 Mbyte maximum video memory
  - 2048 x 1536 maximum resolution

### 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

- One Realtek RTL8111B PCI Express Gigabit controllers
- Supports 10 Mbps, 100 Mbps and 1 Gbps
- IEEE 802.3 and IEEE 802.3ab compliant

### Expansion

- 1x PCI Express x16 slot
- 1x PCI Express x1 slot (shared with PCI slot)
- 1x PCI slot (shared with PCIe x1 slot)

### Serial ATA Interface

- Four Serial ATA 1.0 interface
- Speed up to 3 Gbyte/s
- RAID 0, 1, 0+1, 5

### I/O Connectors

- Connector for additional two USB 2.0 ports
- Digital IO
- Parallel
- Serial port
- Front audio (Line-Out, Mic-In)
- CD-In internal audio
- S/PDIF
- IrDA
- 4x SATA (up to 3 Gb/s) RAID 0, 1, 0+1, 5
- 40-pin IDE
- Floppy
- 20-pin ATX power
- Front panel
- Chassis open
- 2x Fan control

### Rear Panel I/O Ports

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

## Ordering Information

### MI945E00E12R1

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

### IDE Interface

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

### 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")

## 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](http://www.gefanuc.com).

## GE Fanuc Intelligent Platforms Information Centers

Americas:  
1 800 322 3616 or 1 256 880 0444

Asia Pacific:  
+81 3 5544 3973

EMEA:  
Germany: +49 821 5034-0  
UK: + 44 1327 359444

## Additional Resources

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

[www.gefanuc.com](http://www.gefanuc.com)

