

COMe 945 BASIC MODULES

Com Express™ Family

- Intel® Core™ Duo L2400 (1.66GHz) or T2500 (2.0GHz)
- Intel® 945GM Chipset with integrated Intel® Graphics Media Accelerator 950
- Up to 2 GB PC2-4300 DDR2 SDRAM

COMe 945 B Core Duo Module



COM Express, an open specification of the PICMG (PCI Industrial Computer Manufacturer Group), is a module concept to bring PCI Express and other latest technologies like SATA, USB 2.0 and LVDS on a COM (Computer On Module).

COM Express is plugged onto an application-specific base board similar in the ETX concept, but offers more options and a growth path to future CPU technologies. Utilizing different sizes, COM Express can be used for highly embedded solutions up to high performance platforms.

The design of the COM 945 B module supports the dual core CPU technology enabling you to boost your embedded application to highest performance levels. For low power requirements we also support the LV-version in a single core configuration.

For evaluation and design-in of the COM Express modules we provide evaluation baseboards and develop motherboards providing the interface infrastructure for the COM Express module offering PC type connectors for external access.

Special Starter Kits for Linux are available on request. msc-ge.com

III Features

- Intel Core Duo L2400 (1.66 GHz) or T2500 (2.0 GHz)
- Intel 945GM Chipset with integrated Intel Graphics Media Accelerator 950
- Up to 2 GB PC2-4300 DDR2 SDRAM
- Two SATA-300 mass storage Interfaces
- 10/100/1000 Base-TX Ethernet Interface
- LVDS Interface (18 / 24 / 36 / 48 Bit)
- Resolution up to 2.048 x 1.536
- CRT Interface up to 2.048 x 1.536
- Dual Independent Display supported
- Four PCI Express x1 lanes
- Eight USB 2.0 Interfaces
- AC'97 Audio Interface
- RTC (Battery-buffered)
- System Monitoring, Watchdog
- APM ACPI Power Management including suspend-to-RAM
- Fully COM Express Type 2 compliant
- WindowsXP (embedded) and Linux supported

Product description	Clock	TDP
COMe Pentium M 745 Compact Module	1.80 GHz	26 Watt
COMe Pentium M LV 738 Compact Module	1.40 GHz	15 Watt

III Core Logic, Memory

CPU	Intel Core Duo L2400 (1.66 GHz) or Intel Core Duo T2500 (2.0 GHz, upon request)
Chipset	Intel 82945GM, ICH7-M
Memory	200-pin SO-DIMM socket for up to 2 GB PC2-4300 SDRAM

III Drives

SATA	2 SATA II channels up to 300 MB/s each
EIDE	1 Enhanced IDE ports Ultra DMA100

III Standard Interfaces

USB	8 x USB 2.0
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III Bus Interfaces

COM Express	Typ2 Interface, fully compliant
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III Interface

PCI Express	Four channels, PCIe x1, one channel shared with Gbit Ethernet option
PCI	32 Bit standard interface
LPC	Low Pincount Bus for heritage interfaces Flat Panel / CRT Interfaces
Graphics	Intel Graphics Media Accelerator 950 Controller (integrated in Intel 945GM chipset)
Video Memory	UMA, up to 224 MB
LCD Interface	LVDS 24/48 Bit, dual channel via SVDO-to-LVDS converter Max. resolution 1.600 x 1.200 or external PCIe x16 graphic CRT Interface Max. resolution 2.048 x 1.536
TV out	Composite or S-Video

III Miscellaneous

Watchdog Timer	Creates system reset (programmable, 1s ... 255h)
Fan Supply	3-pin header (5V) Battery External

III System Monitoring

Voltage	yes
Temperature	yes
Fan	yes

III LAN Interface

Ethernet	10/100Base-TX (82562EZ) controller (Intel 82559 compatible) or 10/100/1000Base-TX (82573E)
LAN Boot	RPL PXE

III Sound Interface

Audio	AC'97 2.3 Audio Interface
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III BIOS

Type	Phoenix (in on-board Flash)
Auto	Plug & Play (PCIe)
Configuration	PCI Auto Configuration (PCI 2.1) Automatic DRAM configuration
Boot Options	Quick Boot MultiBoot (FD, HD, CD, LAN, USB) Boot without keyboard
Security	System and setup password Write protection for BIOS Flash
Power Management	APM ACPI (including suspend-to-RAM) Fixed frequency option (Setup) Geyserville 3 Support
USB	USB legacy support (Keyboard, Mouse, Hub)
Video	VGA Bios with flat panel extensions

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Flash Update BIOS update via storage media
Setup CMOS setup backup in EEPROM

III Power Supply

Power Power +12V +/-10%, 5V Stby optional
Power Consumption 30W typ. (1.66GHz, 256MB)

III Environment

Ambient 0° ... 60°C (operating)
Temperature -25° ... 85°C (storage)
Humidity 5 ... 95% (operating, non-condensing)
5 ... 95% (storage, non-condensing)

III Mechanical

Dimensions 125mm x 95mm x13mm

