

Product Sheet



COM Express™ Family

Intel® Atom™ Starter Kit

COM Express™, an open specification from PICMG (PCI Industrial Computer Manufacturer Group), is a module concept to bring PCI Express and other modern technologies like SATA, USB 2.0 and LVDS onto a COM (Computer On Module).

The design of the **MSC CXB-A945M** module is based on Intel's new ATOM™ processor technology enabling to lower the power consumption for embedded applications to a minimum while maintaining high graphics performance. The N270 CPU dissipation of only 2.5W is ideally suited for fan-less system designs. Paired with the successful Intel 82945GME the design offers higher graphics performance as its little brother 945GSE.

Features

- Industrial Mini-ITX Baseboard
- COM Express™ Atom N270 CPU
- 1 GB SO-DIMM module installed
- Active heat sink with fan
- Optional 15" TFT open frame display

Our industrial platform **MSC CX-MB-IP1** offers a large variety of interfaces commonly used in industrial applications such as dual Gigabit LAN, USB 2.0, serial, LVDS and VGA/DVI for display support and even USB NAND storage. 32bit PCI and PCI Express are supported with slots and riser cards.

The Starter Kit assembles all the items to build up a ready-to-use system including **a pre-installed LINUX** on a USB 2.0 memory stick. Comprehensive information including the official COM Express™ specification from PICMG and a board support package make the Starter Kit a useful investment in the beginning of your first COM Express project.

- Pre-installed LINUX on USB memory stick
- Extensive documentation on CD
- Board Support Package on CD
- Requires ATX power supply and USB Keyboard/Mouse

Product description	Order numbers
MSC COM Express Intel Atom Starter Kit	MSC CX-SK-A945M-IP1-001-KIT000
MSC COM Express Intel Atom Starter Kit, 15" TFT display	MSC CX-SK-A945M-IP1-002-KIT000
Riser card for one PCI and one PCI Express x1 slot access	MSC CX-MB-IP-RC1
Riser card for two PCI slots access	MSC CX-MB-IP-RC2
Riser card for three PCI and one PCI Express x1 slot access	MSC CX-MB-IP-RC3
Riser card for four PCI slots access	MSC CX-MB-IP-RC4

Technical Data - MSC CX-SK-A945M-IP1



Module	MSC CXB-A945M-N270-165000
CPU	Intel® Atom™ N270 (1.6GHz)
Chipset	Intel® 82945GME, ICH7DH
Memory	1 GB DDR2 SO-DIMM installed

COM Express Module

PCI Express	One PCI Express x1 slot, connector accessible via CX-MB-IP-RC1/ CX-MB-IP-RC3 adapter
PCI	One PCI slot 32-bit V2.1, PCI master One connector for mini-PCI module

Bus Interfaces

SATA	Two SATA-2 connectors (up to 300MB/s)
CompactFlash	Socket for True IDE devices using Master and Slave IDE channels

Drives

USB	8 x USB 2.0 4 USB connectors on rear panel USB NAND storage connector (e.g. Micron RealSSD Embedded USB)
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Standard Interfaces

Serial	COM1/2 on two 9-pin D-Sub connectors
LPT	Parallel Port on 2mm pin row available

Flat Panel / CRT Interface

Graphics	Standard VGA monitor interface (15-pin D-Sub) and Digital DVI monitor interface via Chrontel 7307 SDVO/DVI converter
LCD Interface	LVDS-Interface on JILI30 connector, EEPROM to store display data, Backlight connector onboard; cable kit and inverter available from MSC (visit our web site at www.msc-ge.com).

Security Device

Trusted Platform Module	Infineon TPM 1.2 SLB 9635
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LAN Interface

Ethernet	Dual LAN support: One RJ45 connector for GbE LAN on module One RJ45 connector for onboard LAN (i82573) 10/100/1000 Mb/s, link and speed indicator LEDs
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Audio	High Definition Audio (HDA) codec for MIC, Line-In, Line-Out, Centre/LFE Surround Side (VT1708A) requires module to support HDA
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Sound Interface

GPIO	4 x GPO 4 x GPI, TTL
Watchdog Timer	Initiates system reset (programmable, 1s ... 255h)

System Control	Winbond W83627THF system monitoring and control (2 fans)
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Miscellaneous

Voltage	VBAT, 3.3V, 12V, 5V
Temperature	Monitoring thermistor onboard (system)
FAN	2 x PWM controlled fan connectors onboard

System Monitoring

Power	Standard 20-pin ATX power connector and additional 4-pin ATX12V connector; power requirement is module dependant
Power Consumption	10W typ. additional power required for backlight, USB or drives

Power Supply

Dimensions	170mm x 170mm, (LxW)
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Mechanical

Ambient Temperature	0° ... +60° C operating -25° ... 85° C storage
Humidity	20 ... 80% operating 5 ... 95% storage (non condensing)

Environment

Cooling Solution

Heatsink	MSC CXB-HEATSINK-945-2.7 with CPU fan installed
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Accessories

Passive Heatsink Heatspreader	MSC CXB-HEATSINK-PASSIVE-945-2.7 MSC CXB-HEATSPREADER-A945M-ES
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