COM Express Basic Module

High-Performance Intel Atom Processor

conga-BA945

Featuring the Intel® Atom™ processor N270, 1.6 GHz

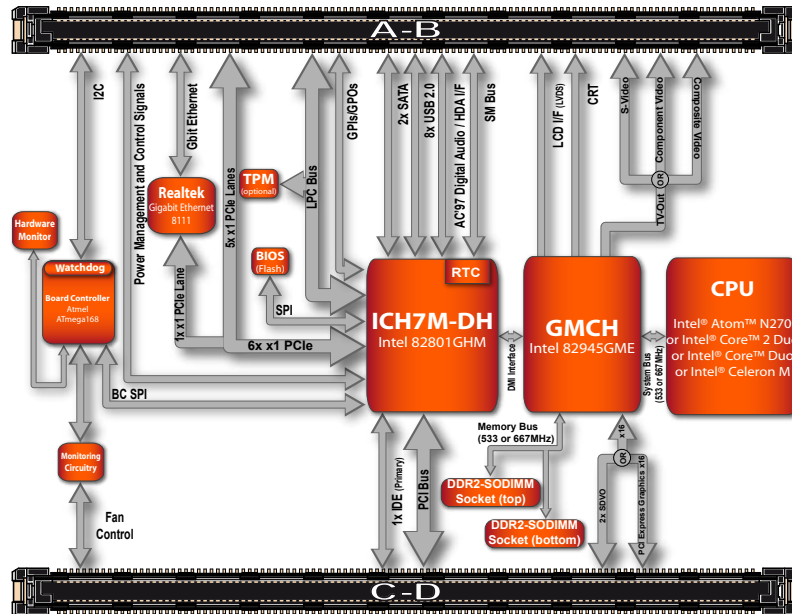**Provides up to 4 GByte Dual Channel DRAM**

ACPI Battery Support, Flat Panel detection ...

COM Express®

Formfactor	**COM Express™ Basic, (95 x 125 mm), Type II Connector Layout**
CPU	Intel® Atom™ processor N270, 1.6 GHz, 512 kB cache, 533 MHz FSB, 45nm, 2.5W TDP
DRAM	2 Sockets, SO-DIMM DDR2 667/PC5300 up to 4 GByte physical memory
Chipset	Graphics & Memory Controller Hub: Intel® 945GME I/O Controller Hub: Intel® 82801 GHM (ICH7M-DH)
Ethernet	Gigabit Ethernet, Realtek RTL8111
I/O Interfaces	5x PCI Express™ Lanes, PCI Express Graphic (PEG x16), 2x Serial ATA® (AHCI) supporting RAID 0 and RAID 1, 1x EIDE (UDMA-66/100), 2x Express Card® (uses 2x USB & 2x PCI Express), 8x USB 2.0 (EHCI), PCI Bus 33 MHz Rev. 2.3, LPC Bus, I²C (Fast Mode, 400 kHz, Multi Master)
Sound	AC'97 Rev.2.2 Compatible, Digital High Definition Audio Interface with support for multiple audio codecs
Graphics	Enhanced 256 Bit 3D Video Controller, Intel® Graphics Media Accelerator 950, up to 10.6 GB/sec memory bandwidth, 256-bit graphics core, max. 224 MByte 64 Bit Video RAM (DVMT 3.0), Dynamic Display Modes for flat-panel, wide-screen and Digital TV support. Two independent pipelines for full dual view support
Motion Video Support	High Definition Hardware Motion Compensation to support high definition hi-bitrate MPEG2 media playback, Up and Down Scaling of Video Content, High Definition Content Decode, HDTV (1080i/p) Support
Flat panel Interface	Dual 112 MHz LVDS Transmitter, Supports all 1x18, 2x18, 1x24, 2x24 Bit, VESA- and openLDI-Mappings, Resolutions 640x480 up to 1920x1200, Automatic Panel Detection via EPI, (Embedded Panel Interface, based on VESA EDID™ 1.3)
CRT Interface	400 MHz RAMDAC, Resolutions up to 2048x1536 @ 75 Hz, including 1920x1080 @ >85 Hz (HDTV)
AUX Output	2x SDVO (shared with PEG x16 pins)
TV Out	Onboard TV encoder, supports HDTV (420p, 720p and 1080i), supports component and s-video
congatec Board Controller	Multi Stage Watchdog, Non-volatile User Data Storage, Manufacturing and Board information, Board Statistics, BIOS Setup Data Backup, I²C (Fast Mode, 400 kHz, Multi Master), Power Loss Control
Embedded BIOS Features	OEM Logo, OEM CMOS Defaults, LCD Control, (Auto Detection, Backlight Control), Flash Update, Based on AMIBIOS8®
Security	The conga-BA945 can be optionally equipped with a discrete "Trusted Platform Module" (TPM). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e commerce will benefit also with improved authentication, integrity and confidence levels.
Power Management	ACPI 2.0 with Battery support
Operating Systems	Microsoft® Windows 7, Microsoft® Windows XP, Microsoft® Windows® embedded Standard, Microsoft® Windows CE 6.0, Microsoft® Windows Embedded Compact 7, Linux
Power Consumption	Typ. application: <10 W @ 12V, see manual for full details, CMOS Battery Backup
Temperature	Operating: 0 .. +60°C Storage: -20 .. +80°C
Humidity	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
Size	95 x 125 mm (3.74" x 4.92")

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Block Diagram conga-BA945

Order Information conga-BA945

Article	PN	Description
conga-BA945/N270	041400	Intel Atom N270 with 1.6GHz, 512kb L2-Cache and 533MHz FSB
conga-BA945/HSP-B	042755	Heatspreader, Standoff with 2.7mm bore hole
conga-BA945/HSP-T	042750	Heatspreader, Standoff with 2.5mm thread
DDR2-SODIMM-667 (512MB)	057841	DDR2 SODIMM memory module with 667MT/s and 512MB RAM.
DDR2-SODIMM-667 (1GB)	087412	DDR2 SODIMM memory module with 667MT/s and 1GB RAM.
DDR2-SODIMM-667 (2GB)	068712	DDR2 SODIMM memory module with 667MT/s and 2GB RAM.

Engineering Tools / Accessories for COM Express®		
conga-CEVAL	065749	Evaluation carrier board for COM-Express-modules
conga-Cdebug	047854	COM-Express debugging platform. Including cable for COM, PS/2 and VGA.
conga-CKIT	064714	COM-Express-Starterkit, incl. conga-CEVAL, conga-CDEBUG, conga-FPA1 (PN: 024241), Dual DVI-D ADD2 card, Power supply, USB-Stick, ... Without COM Express-module
conga-LDVI/EPI	011115	LVDS to DVI converter board for digital flat panels with onboard EEPROM
conga-HDMI/Display Port adapter	500014	The conga-HDMI/DisplayPort adapter is used fo convert the chipset graphic ports Port-B, Port-C and Port-D to the HDMI or DisplayPort Interface
Single DVI-D ADD2 Card	058500	ADD2 display adapter card with single DVI-D digital output. Suitable for all Intel based platforms that support Serial Digital Display Outputs (SDVO) on the standard, x16 PCI Express Graphics (PEG) port.
Dual DVI-D ADD2 Card	013226	ADD2 display adapter card with dual independent DVI-D output. Suitable for all Intel based platforms that support Serial Digital Display Outputs (SDVO) on the standard, x16 PCI Express Graphics (PEG) port.
conga-FPA2	047250	Flatpanel prototype adapter to develop your own flatpanel adapter Including cables set.
COM-Express-carrierboard-Socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COM-Express-carrierboard-Socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces

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