

# COM Express® Basic Module

## Performance

### conga-B945

Featuring the Intel® Core™2 Duo Processors up to 2.16 GHz

Provides up to 4 GByte Dual Channel DRAM

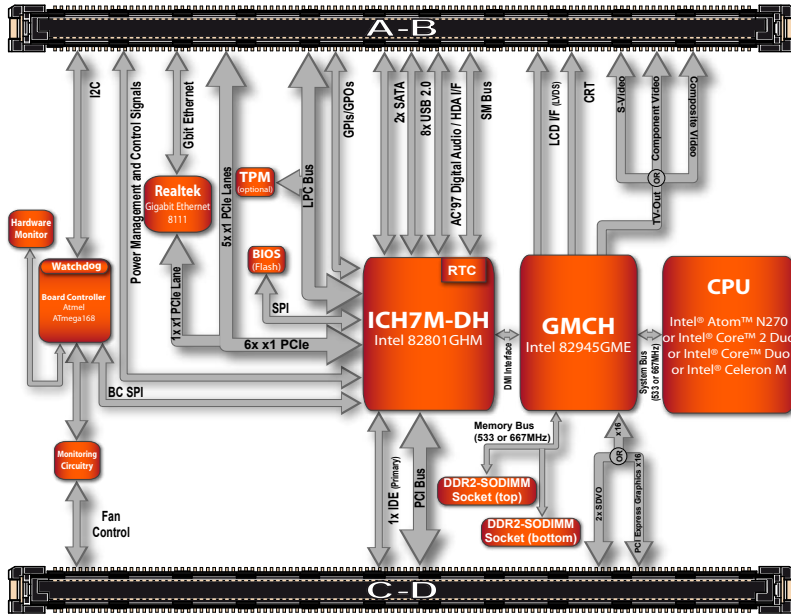
ACPI Battery Support, Flat Panel detection ...



<b>Formfactor</b>	<b>COM Express™ Basic, (95 x 125 mm), Type II Connector Layout</b>
<b>CPU</b>	Intel® Core™ 2 Duo T7400, 2.16 GHz, (4M cache, 667 MHz FSB, 65nm), Socket mPGA479M Intel® Core™ 2 Duo L7400 LV, 1.5 GHz, (4M cache, 667 MHz FSB, 65nm) Intel® Core™ 2 Duo U7500 ULV, 1.06 GHz, (2M cache, 533 MHz FSB, 65nm) Intel® Core™ Duo L2400 LV, 1.66 GHz, (2M cache, 667 MHz FSB, 65nm) Intel® Celeron® M440, 1.86 GHz, (1M cache, 533 MHz FSB, 65nm), Socket mPGA479M Intel® Celeron® M423 ULV, 1.06 GHz, (1M cache, 533 MHz FSB, 65nm)
<b>DRAM</b>	2 Sockets, SO-DIMM DDR2 667/PC5300 up to 4 GByte physical memory
<b>Chipset</b>	Graphics & Memory Controller Hub: Intel® 945GME I/O Controller Hub: Intel® 82801GHM (ICH7M-DH)
<b>Ethernet</b>	Gigabit Ethernet, Realtek RTL8111
<b>I/O Interfaces</b>	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)
<b>Sound</b>	AC'97 Rev.2.2 Compatible, Digital High Definition Audio Interface with support for multiple audio codecs
<b>Graphics</b>	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
<b>Motion Video Support</b>	High Definition Hardware Motion Compensation to support high definition hi-birate MPEG2 media playback, Up and Down Scaling of Video Content, High Definition Content Decode, HDTV (1080i/p) Support
<b>Flat panel Interface</b>	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)
<b>CRT Interface</b>	400 MHz RAMDAC, Resolutions up to 2048x1536 @ 75 Hz, including 1920x1080 @ >85 Hz (HDTV)
<b>AUX Output</b>	2x SDVO (shared with PEG x16 pins)
<b>TV Out</b>	Onboard TV encoder, supports HDTV (420p, 720p and 1080i), supports component and s-video
<b>congatec Board Controller</b>	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
<b>Embedded BIOS Features</b>	OEM Logo, OEM CMOS Defaults, LCD Control, (Auto Detection, Backlight Control), Flash Update, Based on AMIBIOS®
<b>Security</b>	The conga-B945 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.
<b>Power Management</b>	ACPI 2.0 with Battery support
<b>Operating Systems</b>	Microsoft® Windows 7, Microsoft® Windows XP, Microsoft® Windows® embedded Standard, Microsoft® Windows CE 6.0, Microsoft® Windows Embedded Compact 7, Linux
<b>Power Consumption</b>	Typ. application: 10.5 W @ 12V, (1.66 GHz Core Duo), see manual for full details, CMOS Battery Backup
<b>Temperature</b>	Operating: 0 .. +60°C Storage: -20 .. +80°C
<b>Humidity</b>	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
<b>Size</b>	95 x 125 mm² (3.74" x 4.92")

# Block Diagram conga-B945

# Order Information conga-B945



Engineering Tools / Accessories for COM Express®	
065749	conga-CEVAL
047854	conga-Cdebug
064714	conga-CKIT
011115	conga-LDVI/EPI
500014	conga-HDMI/Display Port adapter
058500	Single DVI-D ADD2 Card
013226	Dual DVI-D ADD2 Card
047250	conga-FPA2
400007	COM-Express-carrierboard-Socket-5
400004	COM-Express-carrierboard-Socket-8

Article	PN	Description
conga-B945/423	041480	Intel 945GME and Intel® Celeron® M 423 processor 1.06 GHz, 1MB L2 cache and 533MHz FSB
conga-B945/U7500	047894	Intel 945GME chipset and Intel Core2Duo U7500 processor with 1.06GHz, 2MB L2 cache and 533MHz FSB.
conga-B945/L2400	098642	Intel 945GME chipset and Intel CoreDuo L2400 processor with 1.66GHz, 2 MB L2 cache and 667MHz FSB
conga-B945/L7400	013124	Intel 945GME chipset and Intel Core2Duo L7400 processor with 1.5GHz, 2MB L2 cache and 667MHz FSB
conga-B945-socket/440	033884	Intel 945GME and Intel® Celeron® M 440 Processor 1.86 GHz, 1 MB L2 cache and 533MHz FSB
conga-B945-socket/T7400	083447	Intel 945GME and Intel Core2Duo T7400 Processor 2.16 GHz, 4 MB L2 cache and 533MHz FSB.
conga-B945/HSP-B	024175	Heatspreader, Standoff with 2.7mm bore hole
conga-B945/HSP-T	058741	Heatspreader, Standoff with M2.5mm thread
conga-B945/CSA-B	054123	Standard active cooling solution, surface black with 10mm fins, integrated 12V fan 5500rpm, cable length 200mm, w/3 pin, 2.54 pitch connector, bore hole standoffs
conga-B945/CSA-T	069877	Standard active cooling solution, surface black with 10mm fins, integrated 12V fan 5500rpm, cable length 200mm, w/3 pin, 2.54 pitch connector, thread standoffs
conga-B945/CSP-B	087415	Standard passive cooling solution, surface black with 10mm fins, bore hole standoffs
conga-B945/CSP-T	068741	Standard passive cooling solution, surface black with 10mm fins, thread standoffs
conga-B945-socket/HSP-B	042758	Heatspreader, Standoff with 2.7mm bore hole
conga-B945-socket/HSP-T	085744	Heatspreader, Standoff with M2.5mm thread
conga-B945-socket/CSA-B	022417	Standard active cooling solution, surface black with 10mm fins, integrated 12V fan 5500rpm, cable length 200mm, w/3 pin, 2.54 pitch connector, bore hole standoffs
conga-B945-socket/CSA-T	085147	Standard active cooling solution, surface black with 10mm fins, integrated 12V fan 5500rpm, cable length 200mm, w/3 pin, 2.54 pitch connector, thread standoffs
conga-B945-socket/CSP-B	048731	Standard passive cooling solution, surface black with 10mm fins, bore hole standoffs
conga-B945-socket/CSP-T	025879	Standard passive cooling solution, surface black with 10mm fins, thread standoffs
DDR2-SODIMM-667 (0512MB)	057841	512 MByte DDR2 SODIMM memory module
DDR2-SODIMM-667 (1024MB)	087412	1 GByte DDR2 SODIMM memory module
DDR2-SODIMM-667 (2048MB)	068712	2 GByte DDR2 SODIMM memory module