

M3A780GXH/128M

AMD 780G + SB710 Chipsets

ASRock
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Product Brief <<<

- **AM3 Socket**
- **Supports CPU up to 140W**
- **Supports AMD OverDrive™ with ACC feature (Advanced Clock Calibration)**
- **Dual Channel DDR3 1600 (OC)**
- **Integrated AMD Radeon HD 3200 graphics, DX10 class iGPU, Pixel Shader 4.0, Max. shared memory 512MB**
- **Supports 3-Way CrossFireX™, ATI™ CrossFireX™ and Hybrid CrossFireX™**
- **Built-in 128MB DDR3 1333(OC)/1200MHz SidePort Memory**
- **Three VGA Output options: D-Sub, DVI-D and HDMI**
- **Supports ASRock Instant Boot, Smart BIOS, ASRock OC Tuner, Intelligent Energy Saver**

The specification is subject to change without notice. The brand and product names are trademarks of their respective companies. Any configuration other than original product specification is not guaranteed.

Detail Specification <<<

Platform	- ATX Form Factor: 12.0-in x 8.8-in, 30.5 cm x 22.4 cm - All Solid Capacitor design (100% Japan-made high-quality Conductive Polymer Capacitors)
CPU	- Support for Socket AM3 processors: AMD Phenom™ II X4 / X3 (except 920 / 940) and Athlon II X4 / X3 / X2 processors - Supports CPU up to 140W - Supports AMD OverDrive™ with ACC feature (Advanced Clock Calibration) - AMD LIVE™ Ready - Supports AMD's Cool 'n' Quiet Technology - FSB 2600 MHz (5.2 GT/s) - Supports Untied Overclocking Technology - Supports Hyper-Transport 3.0 (HT 3.0) Technology
Chipset	- Northbridge: AMD 780G - Southbridge: AMD SB710
Memory	- Dual Channel DDR3 memory technology - 4 x DDR3 DIMM slots - Supports DDR3 1600(OC)/1333/1066/800 non-ECC, un-buffered memory - Max. capacity of system memory: 16GB
Expansion Slot	- 3 x PCI Express 2.0 x16 slots (green @ x16 mode, blue @ x8 mode, orange @ x4 mode) - 1 x PCI Express 2.0 x1 slot - 2 x PCI slots - Supports ATI™ CrossFireX™, Hybrid CrossFireX™ and 3-Way CrossFireX™
Graphics	- Integrated AMD Radeon HD 3200 graphics - DX10 class iGPU, Pixel Shader 4.0 - Max. shared memory 512MB - Built-in 128MB DDR3 1333(OC)/1200MHz SidePort Memory - Three VGA Output options: D-Sub, DVI-D and HDMI - Supports HDCP function - Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback
Audio	- 7.1 CH Windows® Vista™ Premium Level HD Audio (ALC888 Audio Codec)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111DL - Supports Wake-On-LAN
Rear Panel I/O	I/O Panel - 1 x PS/2 Keyboard Port - 1 x VGA/D-Sub Port - 1 x VGA/DVI-D Port - 1 x HDMI Port - 1 x Optical SPDIF Out Port - 1 x IEEE 1394 Port - 1 x eSATAII Port - 6 x Ready-to-Use USB 2.0 Ports - 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) - HD Audio Jack: Side Speaker / Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone
Connector	- 6 x Serial ATAII 3.0 Gb/s connectors, support RAID (RAID 0, RAID 1, RAID 10 and JBOD), NCQ, AHCI and "Hot Plug" functions - 1 x eSATAII 3.0 Gb/s connector (shared with 1 SATAII port) - 1 x ATA133 IDE connector (supports 2 x IDE devices) - 1 x Floppy connector - 1 x IR header - 1 x COM port header - 1 x IEEE 1394 header - 1 x HDMI_SPDIF header - CPU/Chassis/NB/Power FAN connector - 24 pin ATX power connector - 8 pin 12V power connector - SLIXFire power connector - CD in header - Front panel audio connector - 3 x USB 2.0 headers (support 6 USB 2.0 ports)
BIOS Feature	- 8Mb AMI BIOS - AMI Legal BIOS - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support - CPU, DRAM, NB, SB Voltage Multi-adjustment - Supports Smart BIOS
Support CD	- Drivers, Utilities, AntiVirus Software (Trial Version), AMD OverDrive™ Utility, AMD Live! Explorer
Unique Feature	- ASRock OC Tuner - Intelligent Energy Saver - Instant Boot - Hybrid Booster: - CPU Frequency Stepless Control - ASRock U-COP - Boot Failure Guard (B.F.G.)
Hardware Monitor	- CPU Temperature Sensing - Chassis Temperature Sensing - CPU/Chassis/NB/Power Fan Tachometer - CPU Quiet Fan - Voltage Monitoring: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® XP / XP Media Center / XP 64-bit / Vista™ / Vista™ 64-bit compliant
Certifications	- FCC, CE, WHQL
Accessories	- 1 x ASRock SLI/XFire Switch Card - Quick Installation Guide, Support CD, I/O Shield - Floppy/ATA 133 cables - 4 x SATA data cables (optional) - 1 x SATA 1 to 1 power cable (optional)

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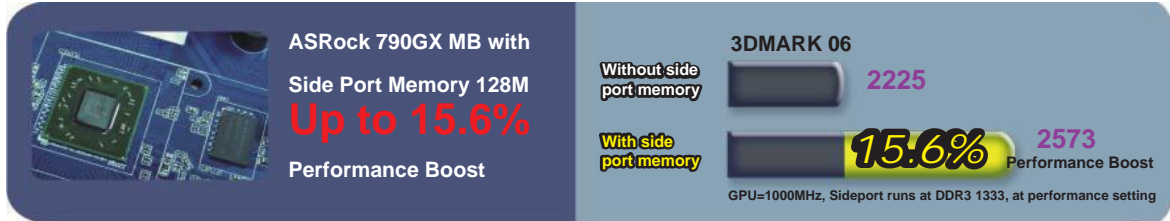
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Side port memory 128M:

Boost performance up to 15.6% which is rarely seen on other 780G boards

side port memroy 128M



AMD OverDrive™ with ACC feature (Advanced Clock Calibration)

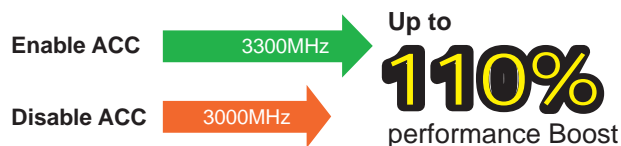
AMD OverDrive™ application interface



AMD OverDrive™ is a powerful tool with numerous features and options which includes clock frequency adjustments, clock multiplier settings, voltage tuning and memory timings.

Advanced Clock Calibration is a performance accelerating feature. This feature is available with the AMD 780G platform and can enable a greater performance tuning margin for the AMD Phenom™ Black Edition CPUs.

CPU Frequency



Configuration:
CPU : Phenom X3 8750 (200 x 12 =2400 Mhz)
Memory : OCZ DDR2-1200
BIOS : L0.03

ASRock M3A780GXH/128M, Worldwide First AMD 780G motherboard supporting AOD ACC function, can boost the CPU frequency up to 110%. The below chart shows the differences between system with AOD ACC function enabled and disabled.

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ASRock Instant Boot

ASRock Instant Boot is a new feature invented exclusively by ASRock. It can boot up system in an amazing speed, which is 10 times faster than traditional boot up. For home users or office PC users, ASRock Instant Boot can also guarantee a clean Windows OS, and consumed less power! For details:

<http://www.asrock.com/feature/InstantBoot/index.asp>

* This function is applicable ONLY to single user that does not secure ID and Password to their systems.

* The boot up time depends on the hardware configuration.

Instant Boot Interface

This function is designed with two main options:

● Enable Instant Boot

Fast Mode: It takes only 3 to 4 seconds to boot up the system. You may start using your computer, running Office, browsing internet and even MSN instantly.

Regular Mode: It only takes half of the traditional boot-up time to start the system. The boot up experience is safe and fast.

● Disable Instant Boot

Instant Boot can also be disabled when you do not want to use this application.

Note: The actual boot up time is subject to the different models and configurations.



10 Times Faster, Only 4 Secs to Boot Up to Windows!

ASRock YouTube

<http://tw.youtube.com/watch?v=BucljXZVxXo>



Pro and Cons of various shut down modes

From this sum up table, we can find that ASRock Instant Boot not only excels in the Boot Up speed (3~4 sec.), it also provides clean OS and saves the most power energy.

	No Shut Down	Traditional boot up	S3	S4	Instant Boot	
					Fast Mode	Regular Mode
Boot Up Time	Best ●	Worse ● 50~60 sec	Best ● 3~4 sec.	Good ● 20~22 sec.	Best ● 3~4 sec.	Good ● 20~22 sec.
Cleanliness of OS	Fair ● Accumulated garbage data	Best ● Clean	Fair ● Accumulated garbage data	Fair ● Accumulated garbage data	Best ● Clean	Best ● Clean
Power Consumption (Light loading)	Worse ● 60W~100W	Best ● 1W~3W	Best ● 1W~3W	Best ● 1W~3W	Best ● 1W~3W	Best ● 1W~3W

● Best ● Good ● Fair ● Worse