February 2012 Gaming PC Builds:

Quickly jump to...

Gaming PC Builds of the Month Introduction:

February has now hit and so it is time for yet another set of monthly builds brought to you by [Newb Computer Build](#). This month we have the usual builds with the exception of the <$500 build being over budget at $538. The reasoning behind this is simply because some prices have inflated and I fought to fit both the newer Intel i3 2120 processor and the Radeon HD 6790 graphics card into the mix. Even for a lower end build, the typical <$500 build can actually keep up with most modern games at good settings with only most of the higher demanding FPS games having to dial down the settings.

Also, there was the release of the **Radeon HD 7950** graphics card on January 31st so I have added this to the $1000 - $1500 gaming pc build. This card is AMDs competition against the GeForce GTX 580 and it has done just that.

I always offer up my services to help anyone wanting further clarification on these builds, or those that have more specific needs when choosing hardware for their builds (specific games, other pc uses etc.) I would prefer you to comment belo, but you can contact me privately through my [contact form](#) as some people prefer this

I do try to be as punctual as possible, but please be patient if I do not respond in like an hour, as I do reply back to everyone

If you want some resources on how to choose specific hardware there are resource pages available under [how to choose your gaming pc hardware](#) and hopefully as there has been a want, I do in some time want to do a step by step building your PC video. On that note, I have also started posting YouTube videos outlining the hardware from these builds which can be viewed on the [NewbComputerBuild YouTube Channel](#).

All of these builds include hardware chosen based on the most recent advances in PC hardware up to this point terms of prices, releases, and reviews. These builds are not meant to be completely static, so by all means feel free to mix it up and add other hardware you may feel is more fit for these / your particular builds.

If you do not mind sharing what you decide to go with, then by all means post and share in the comments at the bottom of the post! I am also always taking suggestions on how I can improve my build articles so please post suggestion or send them to me as I want to communicate as clearly as I can through these articles while being as helpful as possible.

Now onto the first February 2012 PC Build!

Monthly Gaming PC Build ($538): February 2012

Gaming PC Build Recipe:

Processor: _Intel Core i3-2120 Processor 3.3 GHz 3MB Cache Socket LGA1155_	**Motherboard:** _Intel Desktop Board Media Series Micro-ATX form factor for 2nd Gen Intel Core Family Processors BOXDH67GDB3_
Graphics Card: _HIS Radeon HD 6790 1 GB GDDR5 Eyefinity DisplayPort DVI (HDCP) HDMI PCIe X16 2.1 Video Card (H679F1GD)_	**RAM:** _Crucial CT2CP25664BA1339 4GB 2GBx2 240-pin PC3-10600 DIMM DDR3 Memory KIT_
Hard Drive: _Western Digital 250 GB Caviar Blue SATA 6 Gb/s 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive -_	**Power Supply:** _Corsair Builder Series CX V2 500-Watt 80 Plus Certified Power Supply Compatible with Intel and AMD Platforms -_

WD2500AAKX	CMPSU-500CXV2
Computer Case: AeroCool 10-Bay ATX Mid Tower Computer Case - No PSU (Black/Red)	**Optical Drive:** Asus 24xDVD±RW Drive DVD-RAM/±R/±RW 24x8x16x(DVD) 48x32x48x(CD) Serial ATA Internal OEM DRW-24B1ST (Black)

Estimated Price: $ 538 (*$38 over budget, but I like to keep the lower build capable of keeping up in most games so try to recommend based on performance. There are cheaper options for a lower end build that will play games wit lower settings. If you are interested in alternatives please leave a comment and I will try to recommend something more suitable to your budget needs*).

Overview: Gaming PC Build (< $500)

You might be pondering to yourself...I thought this was called this less than $500 build, how come it is around $538. As I have explained in the introduction to this article I have tried to squeeze both the new Intel i3 2120 processor (slightly faster than the previous Intel i3 2100) as well as the price dropped Radeon HD 6790 graphics card. This is totally worth it!

If you are on a really tight budget there is cheaper hardware you can get (so by all means inquire about this if you want), however this lower end build this February actually packs quite the punch for gaming. You will actually be able to play most modern games at good details at resolutions of 1920X1080 so do not fret.

As I noted, the most notable changes to this build is the additions of both the Intel i3 2120 and the Radeon HD 6790. I have also added in a different motherboard, the Intel Media Series one which has been followed by a set of solid reviews.

Overview: The Gaming PC Hardware

Intel Core i3-2120 Processor 3.3 GHz 3MB Cache Socket LGA1155

I have decided to switch up from last months Intel Core i3-2100 processor and

input an Intel i3-2120 this month. This is because the prices are similar and the Intel is a newer version of this one. It has been said that this is a fantastic gaming cpu and that it has been able to beat some of the more powerful quad-core CPUs that have traditionally dominated this price segment (Toms Hardware).

Intel Core i3-2120	2 cores	3.3GHz clock speed	4 threads

Technical Details:

- Process Type: Intel Core i3 Processor i3-2120 Frequency: 3.3 GHz DMI: 5 GT/s
- Intel Smart Cache: 3 MB Process: 32 nm Socket: LGA1155
- Power Consumption: 65 W Max Memory Bandwidth: 21 GB/s Graphics Base Frequency: 850 MHz
- Graphics Max Dynamic Frequency: 1.1 GHz This processor is a Dual Core Processor
- This processor supports Hyper-Threading Technology This processor supports Intel Virtualization Technology (VT-x)
- This processor supports Enhanced Intel Speedstep Technology This processor supports Thermal Monitoring Technologies
- This processor supports Intel 64 This processor supports Idle States
- This processor supports Intel Fast Memory Access This processor supports Intel Flex Memory Access

Intel Desktop Board Media Series Micro-ATX form factor for 2nd Gen Intel Core Family Processors BOXDH67GDB3

I have actually never recommended any Intel motherboard yet in any of the monthly builds, but I stumbled across this one which seems to have some solid user review base behind it (amazon only has 5 reviews, but they are 5/5). There is one caveat, and that it is a Micro ATX sized board, but in reality this does not effect functionality once so ever.

If you would like to readon Intel's full overview of this board then please visit it here.

Do not take this next box too seriously, but when looking at the information on the Amazon.com website for the details on this motherboard it actually gives you a choking hazard warning, so I guess you should not be purchasing this motherboard for your 2 year old!!...

This is where you can...Laugh Out Loud...

Technical Details:

- The boxed Intel Desktop Board DH67GDB3 includes: Micro-ATX I/O shield, SATA cables, I/O layout stickers
- Intel H67 Express Chipset
- Four 240-pin DIMM connectors for dual-channel DDR3 1333/1066 MHz memory support for up to 32 GB maximum memory
- Two USB 3.0 back-panel ports; fourteen USB 2.0 ports, six back-panel ports, and eight additional ports via four internal headers
- Supports the 2nd gen Intel Core processors, including the Intel Core i7 and Intel Core i5 processors
- Supports Intel Built-in Visuals
- Supports Intel Rapid Storage Technology, including RAID 0, 1, 5, 10 with Intel Rapid Recover Technology

HIS Radeon HD 6790 1 GB GDDR5 Eyefinity DisplayPort DVI (HDCP) HDMI PCIe X16 2.1 Video Card (H679F1GD)

The Radeon HD 6790 has been chosen this month (and is an increase in graphics power for the <$500 build!) since the prices on these cards seems to have lowered, (where as the Radeon HD 6770 used to fit this busget requirement) so this is good news! The Radeon HD 6790 featured here will be able to play most modern games in around good performance at resolutions of 1920x1080 with some more demanding games in slightly lower detail. In my opinion, you would only really have to worry in more demanding FPS games like Battlefield 3.

Technical Details:

- Eyefinity technology - an immersive experience that expands your game across multiple displays. Welcome to surround sight.
- Play the latest games in true "Eye-Definition" with the AMD Radeon HD 6800 Series graphics DirectX 11-capable architecture
- Also enabling ultra-realistic effects for the ultimate HD gaming experience with AMD HD3D technology.
- Enhanced Unified Video Decoder (UVD) 3 - Watch the hottest Blu-ray movies, online video

- And other HD content beyond 1080p with low power and low noise with GPU acceleration and enhanced Unified Video Decoder (UVD) 3 features
- DirectX 11-capable architecture enabling ultra-realistic effects for the ultimate HD gaming experience with AMD HD3D technology.
- EyeDefinition Graphics - Play the latest games in true "Eye-Definition" with the AMD Radeon HD 6800 Series graphics
- EyeSpeed Technology - Experience enhanced application performance and incredible video quality online or with your favorite Blu-ray movie

Crucial CT2CP25664BA1339 4GB 2GBx2 240-pin PC3-10600 DIMM DDR3 Memory KIT

This is the take all for budget gaming RAM. Priced this month at only $24 for 4GB (2x 2GB) of RAM you are getting a great deal for 1333 speed RAM. Usually I would recommend getting RAM with a metal heat-sink for a gaming build, but this will not be a problem with this less than $500 gaming pc build. I guarantee you will not find many manufactures offering RAM at this price per value and if you do let me know!

Technical Details:

- To use DDR3 memory, your system motherboard must have 240-pin DIMM slots and a DDR3-enabled chipset.
- This is because a DDR3 SDRAM DIMM will not fit into a standard DDR2 DIMM socket or a DDR DIMM socket.

- **Company Program:** Crucial
- **Configuration:** 256Meg x 64
- **DDR Timings:** CL=9
- **DIMM Type:** Unbuffered
- **Density:** 4GB kit (2GBx2)
- **Error Checking:** NON-ECC
- **Megabytes:** 4096
- **Memory Type:** DDR3 PC3-10600
- **Package:** 240-pin DIMM
- **Replenishment Flag:** Y
- **Speed:** DDR3-1333
- **Voltage:** 1.5V

Western Digital 250 GB Caviar Blue SATA 6 Gb/s 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive - WD2500AAKX

Quoting my January 2012 build's words... *"You might be asking what!? Only 250GB of hard drive space, what era are you living in? However, 250GB this month does seem like a very practical buy at $69. My suggestion for now would be if you can to use an older hard drive you may already have, buy used, or purchase a hard drive of lower storage (such as this 250GB Western Digital) since the price of HD's have yet to subside. 250GB is plenty of space for quite a few games and your OS, however you may be a tad skimp on your larger media (music/movies)"*

This is very true as hard drive prices should be and are still...getting lower. Keep in mind that these builds are meant for those trying to get the best bang for every dollar spent, so I try to really think about the practicality of every piece of hardware.

Corsair Builder Series CX V2 500-Watt 80 Plus Certified Power Supply Compatible with Intel and AMD Platforms - CMPSU-500CXV2

500 Watts is a perfect amount of power for a build of this caliber. I am a fan of the Corsair Builder series as I have never heard a single bad thing about them and if you are going though the trouble to pur your own PC together, and spending well earned cash then you want to make sure that the main power source for your PC is stable and trust worthy. (Corsair also comes with a three year warranty on their hardware)

Technical Details:

- An ultra-quiet 120mm fan delivers excellent airflow at an exceptionally low noise level by varying fan speed in response to temperature.
- 80 Plus certified to deliver 80% efficiency or higher at normal load conditions (20% to 100% load)
- A dedicated single +12V rail offers maximum compatibility with the latest components.
- Over-voltage,over-power protection,under-voltage protection,short circuit protection provide maximum safety to your critical system components.
- 0.99 Active Power Factor Correction provides clean and reliable power.

- A three year warranty and lifetime access to Corsair's legendary technical support and customer service.
- Extra long fully-sleeved cables support full tower chassis.
- Universal AC input from 90~264V. No more hassle of flipping that tiny red switch to select the voltage input!

AeroCool 10-Bay ATX Mid Tower Computer Case - No PSU (Black/Red)

This AeroCool case is as basic as it gets - A regular ATX Mid Tower computer case with Four (4) 5.25-inch external drive bays One (1) 3.5-inch external drive bay and Five (5) 3.5-inch internal drive bays. Even though the case is basic it has everything you need to get going and the case itself actually looks pretty good. The only recommendation I would have would be to also purchase a $4-5 case fan to use as a case exhaust, but you should be fine either way. Used in last months build and this months for the lower end build since it fits perfectly well into the budget and it works since you do not need to worry so much about cooling in a build such as this one. You can always splurge for a more aesthetic case, however if this does not matter to you this one does the job.

Technical Details:

- 10-Bay ATX Mid Tower Computer Case General Features: Black color with red accent Mid Tower design
- ATX form factor No Power Supply Compatible with ATX and MicroATX motherboards
- Compatible with standard ATX PSUs Case Thumbscrews included for easy removal of side panel
- Case Features: Four (4) 5.25-inch external drive bays One (1) 3.5-inch external drive bay
- Five (5) 3.5-inch internal drive bays

Asus 24xDVD±RW Drive DVD-RAM/±R/±RW 24x8x16x(DVD) 48x32x48x(CD) Serial ATA Internal OEM DRW-24B1ST (Black)

Every month I choose the optical drive based mostly on one thing, price. Generally you can purchase a quality DVD writer for around $20 and this month this Asus drive seems to fit that bill. If you find a cheaper alternative that you are fine with, then by all means jump on it, or if you have a taste for a blu-ray reader / writer, then

jump on that! Below are the techincal details for this Asus optical drive:

Product Features

- Drive Type: Internal DVD+/-RW Dual Layer Drive
- Write:DVD+R/-R: 24X DVD+RW/-RW: 8X/6X DVD+R/-R DL: 12X
- Read:DVD+R/-R(Single): 16X DVD+R/-R DL: 12X DVD+RW/-RW(Single): 12X
- DVD-R & DVD-R(DL): DAO/Incremental Recording
- DVD-RW: DAO/Restricted Overwriting/Incremental Recording
- Allows you to permanently delete the data on rewritable discs
- CD-R/RW: DAO/TAO/SAO/Packet Write
- Interface: SATA
- Power saving drive
- Provides you with flexibility and efficiency in terms of multimedia data storage and sharing
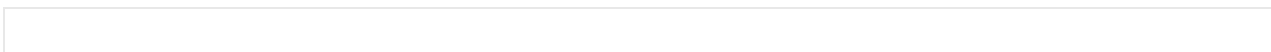- Random Access Time: DVD - 150ms; CD - 150ms

Monthly Gaming PC Build ($500 - $1000): February 2011

Gaming PC Build Recipe:

*Note: Read the *Overview* below for the $500-$1000 build to completely understand how to maximize this gaming build for your particular needs / wants

Processor: _Intel Core i5-2500K Processor_ **Cooler:** _Cooler Master Hyper 212 EVO CPU Cooler (RR-212E-20PK-R1)_	**Motherboard:** _ASUS LGA 1155 - Z68 - PCIe 3.0 and UEFI BIOS Intel Z68 ATX DDR3 2200 LGA 1155 Motherboards P8Z68-V PRO/GEN3_
Graphics Card: _EVGA GeForce GTX 560 1024 MB GDDR5 PCI Express 2.0 2DVI/Mini-HDMI SLI Ready Graphics Card, 01G-P3-1460-KR_	**RAM:** _G.SKILL Sniper 8GB (2 x 4GB) 240-Pin DDR3 SDRAM DDR3 1600 (PC3 12800) Desktop Memory Model F3-12800CL9D-8GBSR_
Hard Drive: _Western Digital Caviar Blue 500 GB SATA III 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive - WD5000AAKX_	**Power Supply:** _Corsair Enthusiast Series 750-Watt 80 Plus Bronze Certified Power Supply Compatible with Intel Core i3, i5, i7 and AMD platforms - CMPSU-750TXV2_
Computer Case: _Cooler Master HAF 912 Mid Tower ATX Case (RC-912-KKN1)_	**Optical Drive:** _Asus 24xDVD±RW Drive DVD-RAM/±R/±RW 24x8x16x(DVD) 48x32x48x(CD) Serial ATA Internal OEM DRW-24B1ST (Black)_

Estimated Price: $976

Overview: Gaming PC Build ($500 - $1000)

The mid range build is typically the build average gamers will decide to go with. This month I have still include the fantastic Intel 2500K Processor and ave included the well rated Cooler Master Hyper 212 Evo cpu cooler so that you can take full advantage of the Intel 2500K's unlocked CPU multiplier, which will enable you to overclock this CPU easily.

Secondly, I have swapped the previous Radeon HD 6870 graphics card with the GTX 560 graphics card. Even though these two cards seem to be at a constant battle for this position, I have decidedly went with the GTX 560 since games like Battlefield 3 have been shown to work slightly better in this card range with the GeForce series of cards (although this is one instance of game) and this can be debated.

Another note worthy piece of hardware is the Asus P8Z68-V PRO/GEN3 motherboard. I have used this motherboard for both this mid ranged build and the higher end build this month for the reasons of cost (it

fit into this build price wise), ratings (I have seen it recommended several times) and the fact that it has PCI Express 3.0 support. This is not necessarily a note worthy thing in the mid ranged build, but it is in the higher end build since it includes the new Radeon HD 7950 which can utilize this. So I have included this Asus mobo in this build to legitimize the future proof quality of the build.

$500 - $1000 Gaming PC Build Additions / Swap Suggestions

Note: Prices are in additional $ amounts...

These additions are to act as supplemental hardware the the Gaming PC Build Recipe Above

Add a SSD Boot Drive: OCZ Technology 60 GB Agility 3 SATA III Solid State Drive AGT3-25SAT3-60G *= + $91*

Add a Blu-Ray Optical Drive: LG Electronics WH12LS30 12X Blu-ray SATA Writer Drive *= + $94 (without excluding the other optical DVD drive)*

Better CPU Cooler (To Overclock Intel 2500K): Corsair Hydro Series H80 High Performance Liquid CPU Cooler (CWCH80) *= + $95 (not excluding previous CPU cooler)*

Do SLI with another EVGA GeForce GTX 560 1024 MB GDDR5 PCI Express 2.0 2DVI/Mini-HDMI SLI Ready Graphics Card, 01G-P3-1460-KR *= + $190*

Additions / Part Swaps Overview

I have included these **Additions / Parts Swap** as these could be parts that may either be better suited for specific individuals, or those who can extend their budget a little further. Remember if you ever have any questions you may leave a comment below.

To start off you can double your graphics power by doing some SLI with another **GeForce GTX 560** graphics card. To read an overview of this graphics card pelase refer to the hardware description in the writeup under this section.

You could add a **OCZ Agility 3 SSD boot drive** which you can instal Windows 7 (or any OS) on and a few of your most played games. The additional drive here is only 60GB, but is a reputable brand and SSD. Keep in mind that prices tend to climb at an accelerated rate as you increase the sizes of your SSD (For example 120Gb, 160GB, 240Gb etc.)

A **Blu-Ray Writer** optical drive such as the LG one listed below if you plan on watching Blu-Ray movies, making Blu-Ray copies along with gaming on your PC build. To me this is more of a luxury since I do not ever purchase Blu-Rays, but some of you are avid Blu-Ray enthusiasts and perhaps like to backup games for you PS3, or store data to Blu-Rays.

If you are planning to overclock your Intel i5-2500K processor then you may want to add in the extra after-stock CPU cooler slightly better than the one in the base build listed above - The **Corsair Hydro Series H80 High Performance Liquid CPU Cooler** is a great cooler to do so.

Technical details Corsair Hydro Series H80 High Performance Liquid CPU Cooler

- Push-button fan control so you can select the fan speed and cooling performance that best suits your needs.
- Double-thick 120mm radiator for increased surface area and cooling potential.
- Two all-new 120mm fans optimize static pressure and airflow for amazing performance.
- FEP tubing provides extraordinarily low coolant evaporation levels.
- A new improved micro-channel cold-plate design more efficiently transfers heat.
- A new improved micro-channel cold-plate design more efficiently transfers heat
- Double-thick 120mm radiator for increased surface area and cooling potential
- FEP tubing provides extraordinarily low coolant evaporation levels
- Includes mounting hardware compatible with all modern CPU socket designs
- Push-button fan control so you can select the fan speed and cooling performance that best suits your needs
- Quick and easy installation brackets make it easier than ever to upgrade to watercooling.
- Two all-new 120mm fans optimize static pressure and airflow for amazing performance

Finally, if you are planning to do Crossfire with this gaming pc build, then you may want to add another AMD Radeon HD 6870 Graphics Card the supplement the other one. Doing this increases the potential of your gaming PC that much further!

Overview: The Gaming PC Hardware

Intel Core i5-2500K Processor

The **Intel 2500K** has been used for a number of months here at Newb Computer Build for the higher end builds. The Intel 2500K is still a beast and the end all processor for any gaming pc build. This Intel Core i5 2500K processor is a great pick for a gaming pc build, because of it's unclocked CPU multiplier. What this means is you can overclock this great Sandy Bridge gaming CPU to get it's full potential. It has been said time and time again that this is the #1 choice of processor amongst gamers at this point in time. You could spend more and get the Intle i7-2600K, but for gaming purposes you will see a very little increase in performance. If you intend to over-clock this processor, it is recommended that you purchase an aftermarket CPU cooler with your hardware so that you can keep your CPU at stable temperatures.

To read a review of the Intel Sandy Bridge Processors head on over to Toms Hardware's Intel's Second-Gen Core CPUs: The Sandy Bridge Review

Intel Core i5-2500K	4 cores	3.3GHz clock speed	LGA 1155 Socket

Product Details:

- Specs: Quad-core 3.3GHz, 6M Cache, Intel HD Graphics 3000, 95 watt TDP, Dual-channel DDR3 memory support, socket LGA1155
- Quad-core processor delivers four-way multicore processing via parallelism resulting in more efficient use of processor
- Enhanced Intel SpeedStep Technology is an advanced means of enabling very high performance while also delivery power-conservation.
- 6 MB Intel Smart Cache is dynamically shared to each processor core, based on workload
- All Core i5 processors have Intel Turbo Boost Technology

Cooler Master Hyper 212 EVO CPU Cooler (RR-212E-20PK-R1)

This CPU Cooler is probably one of the most widely used when overclocking the

Intel 2500K processor and is actually an evolved version of the Coolmaster Hyper 212 Plus (Used in last months build). This cooler is actually about $5 more than the previous cooler and it actually does perform about that much better when cooling according to Maximum PC ([Read the review](#)). It comes at a modest price and does the job and has the review to back it up.

Product Details:

- Well-balanced cooling performance provides fin optimizations with perfect balance between high and low speed operations.
- Wide-range PWM fan with unique wave-shaped blade design for excellent airflow.
- 4 Direct Contact heat pipes with the patented (Continuous Direct Contact) technology - creating a perfect, sleek surface for heat conduction.
- Versatile all-in-one mounting solution supporting the latest Intel LGA 1366 /1155 and AMD FM1 / AM3+.

ASUS LGA 1155 - Z68 - PCIe 3.0 and UEFI BIOS Intel Z68 ATX DDR3 2200 LGA 1155 Motherboards P8Z68-V PRO/GEN3

This board is being used for both this build and the top range build this month and is has been one of the top Z68 boards for a little while, however there has been a recent push for the PCI Express 3.0 ports now. I think especially now that they have starting to come out with graphics cards compatible this this, so this gives you potential for future upgrades by doing this.

Product Details:

- 2 x PCIe 3.0/2.0 x16 (1x16 or dual x8)
- 16-Phase Power Digital power phase
- AMD Quad-GPU CrossFireX and NVIDIA Quad-GPU SLI support
- 1 x Gb LAN featuring the latest Intel chipset
- Bluetooth v2.1 + EDR
- 4 x USB 3.0 (2 ports at back panel, 1 port at mid-board)
- BT GO! (BT Turbo Remote) - Beyond your Imagination of what Bluetooth can do!
- UEFI (Extensible Firmware Interface) BIOS

EVGA GeForce GTX 560 1024 MB GDDR5 PCI Express 2.0 2DVI/Mini-HDMI SLI Ready Graphics Card, 01G-P3-1460-KR

There is always tough trade up between the Radeon HD 6870 and the GeForce GTX 560 in this price range. I have chosen to go with the GeForce GTX 560 this month since the reviews have always been good, but I have also recently put together a few gaming pc builds specifically for Battlefield 3 and I have found that the reviews really push for the GeForce cards in this category for that game for several reasons (not every game!) So in my opinion it might be best to go with an NVidia card in this card range if you are planning on playing games like BF3, otherwise it will not matter very much.

For the most part you should be able to play most games at high details at resolutions of 1920x1080 with the GeForce GTX 560.

Product Details:

- GeForce GTX 560 with 810 MHz core clock
- PCI-Express 2.0
- 1024 MB 256-bit GDDR5 Memory
- 4008 MHz Memory Clock and 1620 MHz Shader Clock
- 128GB/sec Memory Bandwidth
- 45.4 GT/s Texture Fill Rate
- Microsoft DirectX 11 Support
- NVIDIA 2-way SLI ready

G.SKILL Sniper 8GB (2 x 4GB) 240-Pin DDR3 SDRAM DDR3 1600 (PC3 12800) Desktop Memory Model F3-12800CL9D-8GBSR

I have seen the 8GB (2x4GB) of G.Skill Sniper DDR3 memory recommended by many for the last little while as it seems to be getting good user reviews and just plain looks like RAM made for gaming. I don;t usually post or link to reviews on specific memory modules but I have found one for this memory package at guru3d worth a read.

Product Details:

- Cas Latency: 9
- Voltage: 1.5V
- Multi-channel Kit: Dual Channel Kit
- Timing: 9-9-9-24 Buffered/Registered: Unbuffered
- Compatible with Intel Z68/P67/P55 and AMD AM3/Llano/AM3+ platforms Optimized 1.5V low voltage Intel XMP certified

Western Digital Caviar Blue 500 GB SATA III 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive - WD5000AAKX

As said in the January edition..."Sure 500GB may not be enough for everyone, but for a gaming PC it can be plenty (depending on your game archives and whether you do anything else with your PC - such as high end media). Hard Drive sale prices should subside soon which is another reason I only chose 500GB. If you do not want to wait then you can go for a higher 1TB or so Hard Drive, but this may drive this budgeted gaming pc price up"

Product Details

- WD Caviar Blue hard drives have a multitude of features to deliver rock solid performance and ultra-cool and quiet operation.
- 3rd generation SATA interface for 6 GB/s maximum data transfer rates.
- WhisperDrive technology minimizes noise to levels near the threshold of human hearing.
- 500 GB capacity holds up to 100,000 digital photos, 125,000 MP3 files, and 60 hours of HD video.
- Ships in Certified Frustration-Free Packaging
- 3rd generation SATA interface for 6 GB/s maximum data transfer rates
- 500 GB capacity holds up to 100,000 digital photos, 125,000 MP3 files, and 60 hours of HD video
- WD Caviar Blue hard drives have a multitude of features to deliver rock solid performance and ultra-cool and quiet operation
- WhisperDrive technology minimizes noise to levels near the threshold of human hearing

Corsair Enthusiast Series 750-Watt 80 Plus Bronze Certified Power Supply Compatible with Intel Core i3, i5, i7 and AMD platforms - CMPSU-750TXV2

Again...the Corsair Enthusiast Series has become almost a staple for mid range builds with an array of high customer ratings. Just check out Amazon's rating; at the time of writing this this PSU had a rating of 4.5/5 Stars from 274 customers (not bad!). 750 Watts is almost too much wattage, however it does not hurt to have too much!

If you would like to watch a quick overview of the Enthusiast Series PSU's then check this You Tube video done by NewEgg - Newegg TV: Corsair TX v2 Enthusiast Series Power Supplies - First Look

Product Details:

- Over-voltage and over-current protection, under-voltage protection, and short circuit protection provide maximum safety

Cooler Master HAF 912 Mid Tower ATX Case (RC-912-KKN1)

I have used the Cooler Master HAF case in a previous build and I have come back to using it once again since it fit so well into this months $500-$1000 build as it is a very solidly built case at a reasonable price! If you want to get a visual review on what the HAF 912 case looks like then please check out this YouTube Video - #1174 - Cooler Master HAF 912 Case Video Review done by a user called 3DGAMEMAN. I have no idea who he is, and he sounds kind of annoying...however he does do a great overview and really does this case justice.

Product Details:

- Supports two 120mm radiator fans
- Front I/O for easy access
- Top platform for personal belongings
- CPU Retaining hole
- Water Cooling outlets
- 7+1 slots for increased expandability
- Removable dust filters on the bottom and front cover
- Two 3.5" or 2.5"/1.8" HDD/SSDs

Asus 24xDVD±RW Drive DVD-RAM/±R/±RW

24x8x16x(DVD) 48x32x48x(CD) Serial ATA Internal OEM DRW-24B1ST (Black)

As said in the first build: "

Every month I choose the optical drive based mostly on one thing, price. Generally you can purchase a quality DVD writer for around $20 and this month this Asus drive seems to fit that bill. If you find a cheaper alternative that you are fine with, then by all means jump on it, or if you have a taste for a blu-ray reader / writer, then jump on that! Below are the techincal details for this Asus optical drive:

Product Details:

- *Drive Type: Internal DVD+/-RW Dual Layer Drive*
- *Write:DVD+R/-R: 24X DVD+RW/-RW: 8X/6X DVD+R/-R DL: 12X*
- *Read:DVD+R/-R(Single): 16X DVD+R/-R DL: 12X DVD+RW/-RW(Single): 12X*
- *DVD-R & DVD-R(DL): DAO/Incremental Recording*
- *DVD-RW: DAO/Restricted Overwriting/Incremental Recording*
- *Allows you to permanently delete the data on rewritable discs*
- *CD-R/RW: DAO/TAO/SAO/Packet Write*
- *Interface: SATA*
- *Power saving drive*
- *Provides you with flexibility and efficiency in terms of multimedia data storage and sharing*
- *Random Access Time: DVD - 150ms; CD - 150ms"*

Monthly Gaming PC Build ($1000 - $1500): February 2011

Gaming PC Build Recipe:

Processor: [Intel Core i5-2500K Processor](#)	**Motherboard:** [ASUS LGA 1155 - Z68 - PCIe 3.0 and UEFI BIOS Intel Z68 ATX DDR3 2200 LGA 1155 Motherboards P8Z68-V PRO/GEN3](#)
CPU Cooler *(For OverClocking)*: [Cooler Master Hyper 212 EVO CPU Cooler (RR-212E-20PK-R1)](#)	
Graphics Card: [Sapphire 11196-00-40G Radeon HD 7950 3GB DDR5 HDMI / DVI-I / Dual Mini DP PCI-Express Graphics Card](#)	**RAM:** [Corsair Vengeance Blue 16 GB DDR3 SDRAM Dual Channel Memory Kit CMZ16GX3M4A1600C9B](#)
Hard Drive: [Western Digital Caviar Blue 500 GB SATA III 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive - WD5000AAKX](#) **SSD Hard Drive:** [OCZ Technology 60 GB Agility 3 SATA III Solid State Drive AGT3-25SAT3-60G](#)	**Power Supply:** [Corsair HX Professional Series 750-Watt 80 Plus Certified Power Supply Compatible with Core i7 and Core i5 - CMPSU-750HX](#)
Computer Case: [Corsair Carbide Series 400R Mid Tower Gaming Computer Case - CC-9011011-WW](#)	**Optical Drive:** [Asus 24xDVD±RW Serial ATA Internal OEM Drive DRW-24B1ST (Black)](#)

Estimated Price: $1492 *(Perfect fit for the $1500 budget!)*

Overview: Gaming PC Build ($1000 - $1500)

Here we are at the top end build, the $1000 - $1500 gaming pc build. This build focuses on the game who wants to play any game they like at the highest FPS possible. If you have read through every build in this February 2012's builds article then you might see that this build and the previous mid ranged build are very similar with a few differences...

Yes, the processor, the cpu cooler, the motherboard and the hard drive are the exact same suggestions as the mid range build. The biggest addition to this build is the inclusion of the Radeon HD 7950 graphics card, which was just released last January 31st 2012 (read [Toms Hardware's Radeon HD 7950 Review](#)).

As well, I have again included the 64 GB Solid State Hard Drive in this higher end build so that you can further increase boot times of your OS and a few selection of games. There has been an increase in the amount of RAM from last months 8GBs to a total of 16GB this month (four 4GB RAM modules).

The power supply included this month is the Corsair HX Professional Series 750-Watt 80 Plus Certified Power Supply which is a great pick in terms of price, modular capability and quality. I have chosen to switch this from last months 1000W modular cooler master PSU since a couple of people asked me "why so much power, this is unnecessary?". In my opinion, it was not unnecessary as is does not matter to have too much power for a PSU as the prices matched up nicely, however there is nothing wrong with a nice quality well reviewed 750 watt Corsair Professional Series PSU either.

Finally, I have chosen to go with the Corsair Carbide Series 400R Mid Tower Gaming Computer Case; oh so nice it is! For some reason, I just love choosing the computer case as there are so many wonderful options and this is the most personalized and easiest way to make your gaming PC unique to you. This case is actually a fantastic quality for $99 and matches the caliber of those PC cases that are in the $150 - $300 prices ranges!

$1000 - $1500 Gaming PC Build Additions / Swap Suggestions

Note: Prices are in additional $ amounts

These additions are to act as supplemental hardware the the Gaming PC Build Recipe Above

More Hard Drive Space: *[Western Digital Caviar Blue 1 TB SATA III 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive - WD5000AAKX-](#) = + $150 (not excluding the original hard drive in build)*

Double the Graphics Power w/ SLI add one more: *[Sapphire 11196-00-40G Radeon HD 7950 3GB DDR5 HDMI / DVI-I / Dual Mini DP PCI-Express Graphics Card](#) = + $480*

Better CPU   ***Larger***

Cooler (To Overclock Intel 2500K): *[Corsair Hydro Series H80 High Performance Liquid CPU Cooler (CWCH80)](#)* *= + **$95** (not excluding previous CPU cooler)*

SSD: *[Crucial 128 GB m4 2.5-Inch Solid State Drive SATA 6Gb/s](#)* *= + **$178** (Excludes previously included SSD)*

Overview: Additions / Part Swaps

The additional hardware options I chose for the $1000 - $1500 February 2012 build are here to serve as further enhancements over the original gaming pc build recipe posted above.

Just in case you were wanting more massive hard drive space, I suggested a larger **1TB Western Digital Caviar Blue Hard Drive**. This is because I only included a 500GB in the original build, and this size to some is small, so if you would like to still upgrade then by all means go for it!

Just in case the original OCZ SSD 60GB Hard Drive is not enough for your OS and all of your most played games (or whatever else you want the fastest access to), then you may upgrade to a larger SSD, so I have included the **Crucial 128GB m4 SSD** (Keep in mind that SSD's seem to have prices that increase significantly as sizes increase not to significantly).

Finally, I have included a second **Radeon HD 7950 Graphics Card** just in case there is that one truly hardcore gaming hardware enthusiast who wants to do SLI with two of those GPU beasts.

Also, if you want a CPU cooler to really do the trick I have included a higher end Corsair Hydro series CPU cooler just in case you were interested!

Overview: The Gaming PC Hardware

Intel Core i5-2500K Processor

The **Intel 2500K** has been used for both the $500 - $1000 and the $1000 - $1500 build for quite some time. This is because the Intel i5-2500K processor is the top of the line gaming processor out to date. This is because this processor is unlocked, which all allows user to overclock; the Intel i5-2500K processor is also extremely easy to do

so. Users generally can OC to 4.0GHz stable easily; even on stock!

To read a review of the Intel Sandy Bridge Processors head on over to Toms Hardware's [Intel's Second-Gen Core CPUs: The Sandy Bridge Review](#)

Intel Core i5-2500K	4 cores	3.3GHz clock speed	LGA 1155 Socket

Product Details:

- Specs: Quad-core 3.3GHz, 6M Cache, Intel HD Graphics 3000, 95 watt TDP, Dual-channel DDR3 memory support, socket LGA1155
- Quad-core processor delivers four-way multicore processing via parallelism resulting in more efficient use of processor
- Enhanced Intel SpeedStep Technology is an advanced means of enabling very high performance while also delivery power-conservation.
- 6 MB Intel Smart Cache is dynamically shared to each processor core, based on workload
- All Core i5 processors have Intel Turbo Boost Technology

[Cooler Master Hyper 212 EVO CPU Cooler (RR-212E-20PK-R1)](#)

As I have said in the above mid build where I used the same cooler master hyper 212 cpu cooler - "*This CPU Cooler is probably one of the most widely used when overclocking the Intel 2500K processor and is actually an evolved version of the Coolmaster Hyper 212 Plus (Used in last months build). This cooler is actually about $5 more than the previous cooler and it actually does perform about that much better when cooling according to Maximum PC ([Read the review](#)). It comes at a modest price and does the job and has the review to back it up.*"

Product Details:

- Well-balanced cooling performance provides fin optimizations with perfect balance between high and low speed operations.

- Wide-range PWM fan with unique wave-shaped blade design for excellent airflow.
- 4 Direct Contact heat pipes with the patented (Continuous Direct Contact) technology - creating a perfect, sleek surface for heat conduction.
- Versatile all-in-one mounting solution supporting the latest Intel LGA 1366 /1155 and AMD FM1 / AM3+.

ASUS LGA 1155 - Z68 - PCIe 3.0 and UEFI BIOS Intel Z68 ATX DDR3 2200 LGA 1155 Motherboards P8Z68-V PRO/GEN3

This ASUS p8Z68-V Pro motherboard is a great motherboard to pair with the new Radeon HD 7950 graphics card below as it supports PCIe. 3.0 x16 ports of which the HD 7950 can take advantage of. (Read more on PCI Express 3.0 on Wikipedia)

Product Details:

- 2 x PCIe 3.0/2.0 x16 (1x16 or dual x8)
- 16-Phase Power Digital power phase
- AMD Quad-GPU CrossFireX and NVIDIA Quad-GPU SLI support
- 1 x Gb LAN featuring the latest Intel chipset
- Bluetooth v2.1 + EDR
- 4 x USB 3.0 (2 ports at back panel, 1 port at mid-board)
- BT GO! (BT Turbo Remote) - Beyond your Imagination of what Bluetooth can do!
- UEFI (Extensible Firmware Interface) BIOS

Sapphire 11196-00-40G Radeon HD 7950 3GB DDR5 HDMI / DVI-I / Dual Mini DP PCI-Express Graphics Card

This Radeon HD 7950 graphics card is probably the most notable addition to any of the builds in this February's Gaming PC Builds since it was just released January 31st! The Radeon HD 7950 is the newest competition against the NVidia GeForce GTX 580.

As per usual, Toms Hardware has provided us with a fantastic

overview of the new cards in their article - [AMD Radeon HD 7950 Review : Up Against GeForce GTX 580](#) where the author has said that he would be willing to purchase the Radeon HD 6970 over the GTX 580 because of its "*…computer potential and power consumption advantage*" and "*at an anticipated price tag of $450, [The Radeon HD 7950 is] a cheaper, cooler, and more power-friendly alternative to GeForce GTX 580. In games, there's really no contest in a decision between the two.*"

Product Details:

- PCI-Express Gen3
- 384-bit GDDR5 Memory
- 6pin + 6pin Board Power Connectors
- DirectX 11.1

Corsair Vengeance Blue 16 GB DDR3 SDRAM Dual Channel Memory Kit CMZ16GX3M4A1600C9B

The previous months build included a mere 8GB of RAM in the $1500 build, however since there seemed to be more room in this budget build this month I have decided it was time for a 16GB DDR3 RAM package and chose this one specifically since the reviews are pretty amazing (plus it should match quite nicely with the fantastic GEN3 Asus motherboard above!).

Product Features:

- Designed for Sandy Bridge Platform and AMD Platforms
- 16GB (4 x 4GB) DDR3 for AMD, Intel Dual Channel processors and Sandy Bridge 2nd Generation Intel Core platforms
- Intel XMP (Extreme Memory Profile) Support
- Speed: 1600mhz
- Timing: 9-9-9-24
- Lifetime Warranty

- Pin Out: 240-pin
- Voltage: 1.5v

Western Digital Caviar Blue 500 GB SATA III 7200 RPM 16 MB Cache Bulk/OEM Desktop Hard Drive - WD5000AAKX

The Caviar Blue Western Digital hard drives are a regular part of the monthly builds as they are still of a high quality standard. These drives come at 7200 RPM and 500GB should hold quite a few games. Some may say that 500GB is too little for a build of this budget, however I disagree since you can always upgrade hard drives with an easy swap. You can always keep a look out for some 1TB sales!

Product Details:

- WD Caviar Blue hard drives have a multitude of features to deliver rock solid performance and ultra-cool and quiet operation.
- 3rd generation SATA interface for 6 GB/s maximum data transfer rates.
- WhisperDrive technology minimizes noise to levels near the threshold of human hearing.
- 500 GB capacity holds up to 100,000 digital photos, 125,000 MP3 files, and 60 hours of HD video.
- Ships in Certified Frustration-Free Packaging
- 3rd generation SATA interface for 6 GB/s maximum data transfer rates
- 500 GB capacity holds up to 100,000 digital photos, 125,000 MP3 files, and 60 hours of HD video
- WD Caviar Blue hard drives have a multitude of features to deliver rock solid performance and ultra-cool and quiet operation
- WhisperDrive technology minimizes noise to levels near the threshold of human hearing

OCZ Technology 60 GB Agility 3 SATA III Solid State Drive AGT3-25SAT3-60G

Used in last months edition of Newb Computer Build's Monlthy Gaming PC Build's - The **OCZ 60GB Agility 3** is a great boot up disk drive that can store your OS and perhaps a couple of game for quick booting. This SSD is one of Toms Hardware's top rated SSD drives around this price range and is priced perfectly at around $100. By no means is this piece of hardware completely necessary for a great gaming build as you could do just fine without it, however it will increase boot times of OS and games. If this is of no concern to you then by all means you can do without.

Product Details:

- Interface: SATA III/6Gbps (Backwards compatible with SATA II/3Gbps, but optimized for SATA 6Gbps, Form Factor: 2.5 inches
- Life Expectancy: 2 million hours Mean Time Before Failure (MTBF), NAND Components: Multi-Level Cell (MLC),
- Max Read: up to 525MB/s, Max Write: up to 280 MB/s, 4KB Random Write: 50,000 I/O Per Second (IOPS), Controller: SandForce 2281
- ECC Recovery: Up to 55 bits correctable per 512-byte sector (BCH) *varies depending on exact configuration, Certifications: RoHs, CE, FCC

Corsair HX Professional Series 750-Watt 80 Plus Certified Power Supply Compatible with Core i7 and Core i5 - CMPSU-750HX

An example of a quality PSU is this Corsair Professional Series model. It is a modular design, which allows for fantastic cable management and fantastic power consumption to keep your PC cool as well as saves on energy.

Product Details:

- Modular Cable design allows you to use only those cables needed & saves you space inside your case
- Over Current / Voltage / Power Protection, Under Voltage and Short Circuit Protection provides Maximum Safety for your critical system components
- 80 Plus Certified for 80%+ Energy Efficiency at 20%, 50% and 100% Load Condition for less Heat Generation and Lower Energy Bill
- Dedicated Single +12V Rail Offers Maximum Compatibility with Latest Components
- High quality Japanese Capacitors provide Uncompromised Performance and Reliability

Corsair Carbide Series 400R Mid Tower Gaming Computer Case - CC-9011011-WW

The Corsair Carbide Series 400R case comes at a phenomenal price for such a great case - at

about $99. This case is capable of installing up to ten fans (fantastic cooling capability), built in handle, front LEDs can be toggles on / off (you do not see this all too often which is a shame), and it has been said to have decent cable management. If you would like to read an in depth overview of the case I will refer you to the Overclockersclub Corsair Carbide Series 400R Review.

Product Details:

- Built-in compatibility for SSDs in the six hard drive bays gives you the flexibility you need.
- Front panel includes USB 3.0, Headphone, Mic, and an LED on/off switch.
- Keep your system cool with up to 10 fan mount locations (four 120mm, six 120mm/140mm)
- Up to 316mm of length for modern GPUs.
- Easily accessible dust filters keep the cool air flowing over your valuable components.
- Captive thumbscrews make it easy to remove your side panels without losing the screws.
- Install or upgrade your CPU heatsink quickly with the easy-access backplate cutout.
- Optimize airflow and keep your system neat and tidy using the intelligent cable management system.

Asus 24xDVD±RW Serial ATA Internal OEM Drive DRW-24B1ST (Black)

As said in the top two previous builds: *"Every month I choose the optical drive based mostly on one thing, price. Generally you can purchase a quality DVD writer for around $20 and this month this Asus drive seems to fit that bill. If you find a cheaper alternative that you are fine with, then by all means jump on it, or if you have a taste for a blu-ray reader / writer, then jump on that! Below are the techincal details for this Asus optical drive:*

Product Details:

- *Drive Type: Internal DVD+/-RW Dual Layer Drive*
- *Write:DVD+R/-R: 24X DVD+RW/-RW: 8X/6X DVD+R/-R DL: 12X*
- *Read:DVD+R/-R(Single): 16X DVD+R/-R DL: 12X DVD+RW/-RW(Single): 12X*
- *DVD-R & DVD-R(DL): DAO/Incremental Recording*
- *DVD-RW: DAO/Restricted Overwriting/Incremental Recording*
- *Allows you to permanently delete the data on rewritable discs*
- *CD-R/RW: DAO/TAO/SAO/Packet Write*

- *Interface: SATA*
- *Power saving drive*
- *Provides you with flexibility and efficiency in terms of multimedia data storage and sharing*
- *Random Access Time: DVD - 150ms; CD - 150ms"*

Concluding February's 2012's Gaming PC Builds:

I would like to thank you for taking the time to visit Newb Computer Build and reading through the February 2012's Gaming PC Build's article. You might be here for the first time because you are wanting to build a gaming pc for the first time, have not built one in a while, or are just plain interested in gaming pc hardware. Regardless of your reasons I welcome you with the most humble of gratitude.

If you ever have any comments, suggestions or questions please do not hesitate to leave a comment below of send me a message via the comment form (located on the top menu under "contact me"). I try my hardest to reply as soon as I can to everyone.

Have a fantastic month of February and please check back form time to time to catch up on the latest gaming pc builds, gaming hardware information and more!

February 2012's Gaming PC Hardware Overview Video:

**Coming soon - in the works!