

# **OCIPUG Hardware SIG**

**July 8, 2008**

# OCIPUG Hardware SIG

- Agenda – July 8, 2008
  - 7:00 – 7:05 Administration
  - 7:05 – 8:30 Featured Topic: Building Your Own System (2008 Series) – Sourcing Your Components
  - 8:30 – 9:00 Hardware News
  - 9:00 – 9:10 Break
  - 9:10 – 9:55 Hardware Submission and Random Access (Q&A)
  - 9:55 – 10:00 Recap, Preview, and Close

# OCIPUG Hardware SIG

- Administration
  - Welcome! Please Sign In.
  - This SIG is a resource for computer users and potential computer users.
  - Random Access “Log” – sets response sequence
  - Hardware Assistance **RELEASE** Form
  - This presentation will be posted on the OCIPUG Hardware SIG web site:
    - Click the “Hardware” link at <http://www.ocipug.org/>

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- Administration (continued)
  - Also posted on that web site:
    - SIG info and meeting schedule
    - Prior presentations (back to “Day One”, April 11, 2000)
    - Hardware links (to press releases and product pages)
    - “Resource” links (to product reviews, product news, “self help”, PC technology and industry/standard organizations, e-tailers, and pricing engines)

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- Building...('08): Sourcing Your Components
  - Givens (from the last meeting)
    - You have developed a “draft” of your preliminary system spec, i.e., you have defined a set of minimums:
      - Acceptable key components – as applicable, the CPU, motherboard (chipset and RAM type), graphics solution, storage, and power supply
      - Acceptable other components – the balance of the components needed to complete your system.
    - You have established a budget.

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- Building...('08): Sourcing...(continued)
  - The Process
    - “Make or Buy” decision
    - Define acceptable suppliers (type/issues)
    - Locate suppliers
    - Evaluate offerings
    - Make the purchases
    - Track, receive, inventory, and TEST.

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- Building...('08): Sourcing...(continued)
  - “Make or Buy” decision
    - IF you are willing to consider “foregoing the experience” of building your own system, you have the preliminary spec and your budget with which to evaluate buying a pre-built system.
    - Possible advantages of buying pre-built
      - **System-level** warranty and support
      - Technical expertise (assumed)
      - **Cost may be lower**

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- Building...('08): Sourcing...(continued)
  - “Make or Buy” decision (continued)
    - Possible disadvantages of buying pre-built
      - Unknown components (“salesperson” may not know or be willing to disclose, and/or the product may vary due to available inventory) – brand, model, OEM variations
      - Delays in getting problem resolved – shipping, onsite scheduling
      - Unwillingness to attempt to resolve problems over the phone without OS reload (restore to original software load).
    - If you decide to “Buy”, many of the steps that follow will still be applicable.

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- Building...('08): Sourcing...(continued)
  - Define acceptable suppliers (type/issues)
    - Local store
      - “Local” (subject to small claims filing - up to \$5K)
      - Face-to-face – see who you’re dealing with
      - Chance to see their “shop”
      - Chance to negotiate
      - BBB records
      - References
      - Available products - box vs. tray, bulk vs. retail
      - “Cash discount”, sales tax
      - Warranty/service – in store, “manufacturer’s”, on-site (system)

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- Building...('08): Sourcing...(continued)
  - Define acceptable suppliers (type/issues)(cont.)
    - Local computer “shows” (swap meets)
      - “Local” vendors? All may not be local. Need to check.
      - Face-to-face - see who you’re dealing with
      - Would require a separate trip to see their “shop”
      - Chance to negotiate
      - BBB records – only if you call from the show (delay)
      - References – less time to pursue (delay)
      - Available products - box vs. tray, bulk vs. retail
      - “Cash discount”; sales tax; different price after show
      - Warranty/service - in store, “manufacturer’s”, on-site (system)

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- Building...('08): Sourcing...(continued)
  - Define acceptable suppliers (type/issues)(cont.)
    - Web
      - “Local” vendors? Need to check.
      - No “face-to-face”
      - Would require a separate trip to see their “shop” (IF they have one)
      - No chance to negotiate; different price for non-web orders
      - BBB records – possible
      - References – possible
      - Available products - box vs. tray, bulk vs. “retail”. Need to check.
      - Shipping (and handling) cost, no cash discount, sales tax (?)
      - Warranty/service – site’s, “manufacturer’s”, on-site (system)

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- Building...('08): Sourcing...(continued)
  - Define acceptable suppliers (type/issues)(cont.)
    - All sources – other issues
      - Returns policy
        - Return for refund or store credit
        - Non-returnable items
        - Length of time (starting AND ending when?)
        - Restocking fee
        - DOA vs. defect (if defect, the replacement may NOT be new)
      - Order cancellation policy
      - Credit card processing procedures – when charged; funds “reservation”
      - READ the fine print AND make a copy!!!

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- Building...('08): Sourcing...(continued)
  - Locate suppliers
    - Local store
      - Yellow pages
      - Local computer “rag”
      - Saturday/Sunday paper (Times sports section)
      - Newspaper ads and inserts
      - Word of mouth/referrals.

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- Building...('08): Sourcing...(continued)
  - Locate suppliers (continued)
    - Local computer shows
      - Web sites for the major shows
        - <http://www.lacomputerfair.com/CFPages/schedule.html>
      - Local computer “rag”
      - Saturday/Sunday paper (Times sports section)
      - Flyers – “sign posts”
      - Word of mouth/referrals.

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- Building...('08): Sourcing...(continued)
  - Locate suppliers (continued)
    - Web (specific brands)
      - System manufacturer's sites (direct sales; retail model listing; retailer links)
        - Compaq/HP
        - Dell
        - Others (Acer, Gateway, Lenovo, MPC...)
    - Web (specific retailers)
      - Sites for major retail chains – Best Buy, Circuit City, CompUSA, Costco, Fry's, Micro Center, Office Depot, Sam's Club, Staples, Wal-Mart

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- Building...('08): Sourcing...(continued)
  - Locate suppliers (continued)
    - Web (pricing engines/services)
      - [c|net Shopper](#)
      - [NexTag](#)
      - [PCWorld](#)
      - [PriceGrabber](#)
      - [PriceRunner](#)
      - [Pricewatch](#)
      - [SearchAllDeals](#)
      - [SharkyExtreme](#) (weekly pricing guides for CPUs and RAM; monthly pricing guides for hard drives and video cards) – typically does not show the latest models and typically the pricing is not the best

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- Building...('08): Sourcing...(continued)
  - Evaluate offerings (TOTAL “cost” view)
    - Match or exceed your spec?
    - Within budget?
    - Acceptable warranty and support?
    - Match your criteria for an acceptable supplier (especially returns policy)?
      - List known negatives, if any, for each supplier
  - Go back for more?
  - Bottom line – make a decision!

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- Building...('08): Sourcing...(continued)
  - Make the purchases
    - Prefer credit card purchases over any form of “cash” – credit card “charge-back” ability is GOLD! Credit card company/bank will typically support the card holder once merchandise has been returned (**need POD**).  
[Reject shipments you do not want!]
    - Attempt to get the product warranty and support terms spelled out on the invoice; if a web order, print the associated spec, pricing, and “terms” pages (w/ dates).
    - Invoice should have the supplier’s name, address, and phone number PRE-printed (attach the salesperson’s business card); note salesperson’s name (in full).

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- Building...('08): Sourcing...(continued)
  - Make the purchases (continued)
    - Understand and document the “order cancellation policy” and credit card processing “procedures”
    - Understand and document the “returns policy”
    - If web, print out the order confirmation; note tracking site/info
    - **Try to schedule your purchases such that the hardware is received about the same time – need to test the pieces together ASAP (avoid being unable to return for credit because of lapse of time).**

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- Building...('08): Sourcing...(continued)
  - Track, receive, inventory, and TEST
    - If web, track the parts until received. If the shipment hasn't departed the supplier by the second business day after purchase, contact the supplier by phone.
    - Inspect the exterior of the package BEFORE accepting it – if it shows substantial damage or if it doesn't match what you ordered (as best you can tell), **reject the shipment!**
    - Once accepted, carefully unpack and check for the “retail”/manufacturer's seal. If missing, so note and watch for indications that the product has been used or is OEM (assuming you purchased “retail”).
    - Keep all packaging materials and accessories for at least 30 days after receipt!

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- Building...('08): Sourcing...(continued)
  - Track, receive, inventory, and TEST (continued)
    - Inventory the contents – is everything there? Compare to the invoice/packing slip and any Bill of Material that may be on the side of a retail box. Immediately notify the supplier of any missing or mismatched items. Good luck!
    - If it appears that anything has been used, you need to immediately decide whether to contact the vendor to get a replacement or to proceed. If you proceed, your chances of getting a replacement after that point are nil - unless defective.
    - Rebate forms/stickers – missing? Contact the vendor.

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- Building...('08): Sourcing...(continued)
  - Track, receive, inventory, and TEST (continued)
    - Once you are satisfied everything is there and appears in good, functional condition, proceed to partial assembly and test.
    - Testing should ONLY be done with the components you will actually be using in the system. Anything else is a potential mismatch which can lead to false positives or false negatives.
    - If any component fails to function, is “noisy”, or otherwise evidences a defect, immediately contact the vendor.

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- Building...('08): Sourcing...(continued)
  - Track, receive, inventory, and TEST (continued)
    - FYI – testing during the first assembly phase will be to check if the “system” will boot up and correctly identify the CPU and RAM.

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- Building...('08): Sourcing...(continued)
  - If you've gotten this far OK, you're ready for next month's presentation on initial system assembly.  
**IF** you want to assemble in real time at the meeting, you will need to bring:
    - Motherboard
    - CPU, CPU cooler, and thermal compound (a thermal compound "pad" may be on the base of the cooler's heatsink – **there may be a cover to protect the heatsink base BUT no thermal compound; CHECK the documentation before coming**)
    - RAM

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- Building...('08): Sourcing...(continued)
  - ...you will need to bring (continued):
    - The following (which need not the components you will use for the “final” configuration BUT which need to meet the minimum requirements for the “system” to boot)
      - Power supply
      - Video card (if your motherboard does not use integrated graphics)
      - DVI-to-VGA adapter (if video output is not VGA already)
    - Tools – only the appropriate screwdriver for your CPU cooler (if required)
    - A “pad” to place under the motherboard (to protect the solder joints) – you can normally use the motherboard box (a .150-.250” thick layer of “foam” is preferred).

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- Hardware News
  - Processors
    - AMD introduced additional Phenom X4 Quad-Core processors:
      - 9950 Black Edition – 2.6GHz, 4 x 512KB L2 cache, 2MB L3 cache, 4000MHz system bus (HT3), 140W TDP, Socket AM2+, 65nm process technology; 1K pricing: \$235
      - 9350e – 2.0GHz, 4 x 512KB L2 cache, 2MB L3 cache, 3600MHz system bus (HT3), 65W TDP, Socket AM2+, 65nm process technology; 1K pricing: \$195
      - 9150e – 1.8GHz, 4 x 512KB L2 cache, 2MB L3 cache, 3200MHz system bus (HT3), 65W TDP, Socket AM2+, 65nm process technology; 1K pricing: \$175

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- Hardware News (continued)
  - Core Logic (Chipsets) – nothing new
  - Motherboards – nothing new
  - System RAM
    - OCZ introduced “Intel-qualified” XMP DDR3 2GB (2 x 1GB) and 4GB (2 x 2GB) kits:
      - PC3-10666 (1333) – 7-7-7-20 std at 1.75V + XMP profiles to 1600MHz at 9-9-9-28 at 1.8V; “standard” heat spreaders
      - PC3-12800 (1600) – 7-7-7-24 std at 1.9V + XMP profiles to 1800MHz at 9-9-9-31 at 2.0V; “standard” heat spreaders
      - MSRPs: Ukn

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- Hardware News (continued)
  - Graphics Processors and Cards
    - AMD/ATI released its Radeon HD 4800 series of GPUs:
      - 4870 – 800 stream processing cores, 750MHz core clock, 256-bit GDDR5 memory interface, 1.2 teraFLOPS, 160W max board power (dual-slot card); target MSRP (card): \$299
      - 4850 – 800 stream processing cores, 625MHz core clock, 256-bit GDDR3 memory interface, 1.0 teraFLOPS, 110W max board power (single-slot card); target MSRP (card): \$199
      - Cards introduced by ASUS, Diamond, Gigabyte, MSI, PowerColor, Sapphire and others.
    - AMD/ATI released the “All-in-Wonder HD” TV-tuner and capture “card” – HD 3000 series-based; cards to be available through Diamond and VisionTek; MSRP: Ukn

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- Hardware News (continued)
  - Graphics Processors and Cards (continued)
    - NVIDIA released its GeForce GTX 200 family of GPUs:
      - GTX 280 – 240 processor cores, 602MHz graphics clock, 1296MHz processor clock, 1107MHz memory clock, 512-bit memory interface, 1GB GDDR3 “standard” config, supports 3-way SLI, 236W max card power (double-wide card, 1x8-pin/1x6-pin); target MSRP: \$649
      - GTX 260 – 192 processor cores, 576MHz graphics clock, 1242MHz processor clock, 999MHz memory clock, 512-bit memory interface, 896MB GDDR3 “standard” config, supports 3-way SLI, 182W max card power (double-wide card, 2x6-pin); target MSRP: \$399
      - Cards introduced by ASUS, BFG, EVGA, Gigabyte, Leadtek, MSI, PNY, and XFX.

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- Hardware News (continued)
  - Graphics Processors and Cards (continued)
    - NVIDIA stealth released the GeForce 9800 GTX+, a die shrink of the 9800 GTX – cards announced by Leadtek and XFX (the change to the “+” may not be identified by some card OEMs).

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- Hardware News (continued)
  - Graphics Processors and Cards (continued)
    - Matrox announced its M-Series line of multi-monitor cards:
      - M9140 LP – supports up to four monitors at 1920x1200 (digital or analog via breakout cable set), 512MB DDR2 RAM, PCIe (1.0) x16, fanless; \$599 (direct)
      - M9125 – supports up to 2 monitors at 2560x1600 (digital), 512MB DDR2 RAM, PCIe (1.0) x16, fanless; \$399 (direct)
      - M9120 – supports up to 2 monitors at 1920x1200 (digital), 512MB DDR2 RAM, PCIe (1.0) x16, fanless; \$259 (direct)
      - M9120 LP – supports up to four monitors at 1920x1200 (analog via two optional cable sets), 512MB DDR2 RAM, PCIe (1.0) x16, fanless; \$329, base card only (direct)

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- Hardware News (continued)
  - Hard Drives
    - Seagate announced the “Maxtor Central Axis” network drive for home LANs – 1TB, 32MB cache, 7200 rpm, (1) GbE and (2) USB 2.0 ports, supports print sharing and remote access over the Internet, 5 year warr; MSRP: \$330
    - Western Digital introduced:
      - WD Caviar Black – 750GB and 1TB models, 32MB cache, 7200 rpm, 145MB/s internal transfer rate (max), SATA II/300, 5 year warranty; MSRP: \$199 and \$249, respectively
      - My Book Mirror Edition – dual drive, 1 or 2TB models, pre-configured as a RAID 1 (mirrored) drive, performance specs not disclosed, USB 2.0, 3 year warranty; MSRP: \$290 and \$550, respectively

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- Hardware News (continued)
  - Hard Drives (continued)
    - Western Digital introduced (continued):
      - RE3 series of enterprise-class, SATA II/300 drives – 250, 320, and 500GB models, 16MB cache, 7200 rpm, 126MB/sec internal transfer rate (sustained), 1.2M hrs MTBF, RAID optimized, 5 year warranty; MSRP: \$79, \$89, and \$119, respectively
  - Hard Drive Controllers – nothing new
  - Optical and Other Drives
    - LG announced (no product pages):
      - BE06 BD 6X ext burner – USB 2.0; MSRP: \$380
      - GBC-H20L 6X BD int reader – interface unk; MSRP: \$200
      - GBW-H20L 6X BD int burner – interface unk; MSRP: \$280

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- Hardware News (continued)
  - Optical and Other Drives (continued)
    - Pioneer introduced additional DVD-Multi burners:
      - DVR-116D (ATAPI) – up to 20X write, 16X read; MSRP: Ukn
      - DVR-216D (SATA) – up to 20X write, 16X read; MSRP: Ukn
  - Sound Processors and Cards
    - Auzentech announced the "Auzen X-Fi Home Theater 7.1" PCIe x1 card (for September shipment) – based on the Creative X-Fi sound processor, HDMI input and output, non-downsampling, internal video interface for future NVIDIA solution; MSRP: Ukn

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- Hardware News (continued)
  - Modems and NICs – nothing new
  - Power Supplies – nothing new

# OCIPUG Hardware SIG

- Hardware Assistance & Random Access (Q&A)
  - Hardware Assistance **RELEASE** Form
  - Random Access Log

# OCIPUG Hardware SIG

- Recap, Preview, and Close
  - Recap
  - Preview
    - Featured Topic for August 12, 2008: Building Your Own System (2008 Series) - Setting Up/Installing Your Motherboard, CPU, and RAM
    - Close (please police up the area)