



range Bytes

Volume 49 No 8

August 3, 2025

\$1.50

NOCCC meetings for Sunday August 3, 2025

MAIN MEETING

What went wrong with the upgrading of a non-compliant Desktop Win 10 to Win 11 OS
Plus, a surprise hardware presentation

Special Interest Groups (SIGs) & Main Meeting Schedule

9:00 AM – 10:30 AM

Beginners Digital Photography*Science 131*

Questions and Answers about Digital Photography

Linux for Desktop Users.....*Science 129*

Beginners' Questions about Linux

10:30 AM – 12:00 PM Noon

3D Printing*Science 127*

Questions and Answers about 3D printing if requested

Advanced Digital Photography.....*Science 131*

Questions and Answers about Digital Photography

Linux Administration*Science 129*

More topics about the Linux operating system

Mobile Computing.....*Science 109*

We discuss smart phones, tablets, laptops, operating systems and computer related news. **Waiting for a new leader.**

12:00 PM Noon – 1:00 PM

3D Printing..... *Science 127*

Questions and Answers about 3D printing if requested.

PIG SIG *Irvine Courtyard*

Bring your lunch. Consume it in the open-air benches in front of the Irvine Hall or join the group that goes to the student cafeteria. Talk about your computer(s) and life experiences.

1:00 – 3:00 PM Main Meeting

A Shuttle Desktop computer that has an ancient, 14 year old, Intel I5-3570K 4-core, 4-thread, 3.4 GHz CPU and no TPM module was the guinea pig for the upgrade. It does not meet M\$ criteria for a free upgrade, **or paid**, to Windows 11. The demonstration partly failed. The upgrade install of 11 would only let me do a "Clean" install instead of letting me keep the installed programs & data. I will tell you why. Then show it running Win11.

If you goto:<https://microsoftgraveyard.com/>

You will be at a Site that lists 159 programs killed by MicroSoft

BOD.....3-4PM..... Science 129

Board Meeting.....*Science 129*

Verify your membership renewal information by checking your address label on the last page. If it is not right, let the treasurer know.

Mark your calendars for these meeting dates
2025: Aug. 3, Sep. 7, Oct. 12, Nov. 2, Dec. 7
2026: Jan. 11, Feb. 15, Mar. 1, Apr. 5, May 3

Coffee, cookies and donuts are available during the day in room 129 .

“Friends Helping Friends” since April 1976

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Special email addresses

**Jim Sanders is: editor@noccc.org
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**Our Website
WWW.NOCCC.ORG**

Reminder: Membership expiration dates are based on the date that you joined the club. **Example,** you joined or re-upped your membership in the club in October of 2024. That means that in October 2025 you should pay your membership dues. In the address label area of the Orange Bytes is your join month/expiration month.

A thought to consider: The only reason the club has been able to continue functioning financially after Covid is a donation in the will of a former member. Could you do that?

About the building a new PC article, you should know the entire article was well written by Grok.com. Think about it!

Reprint Policy

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Editors Corner

Best Bang-for-the-Buck PC Build for 2025: High Performance on a Budget

Building a desktop PC in 2025 that delivers excellent performance without breaking the bank is entirely achievable, thanks to competitive pricing and advancements in PC hardware. By carefully selecting components that balance cost and performance, you can create a system ideal for gaming, productivity, or content creation. This article outlines a cost-effective PC build, focusing on up-to-date pricing for CPUs, GPUs, RAM, motherboards, SSDs, and other essential components. All prices are sourced from recent data available on major retailers like Amazon, Newegg, Best Buy, and PCPartPicker, reflecting U.S. market trends as of July 2025.

Build Overview

Our goal is a versatile PC build targeting 1440p gaming and strong multitasking capabilities for under \$1,000. This budget covers the core components: CPU, GPU, RAM, motherboard, SSD, power supply, case, and cooling. The selected parts prioritize value, ensuring compatibility and future upgrade potential. This build is designed for gamers, students, and professionals seeking reliable performance without overspending.

CPU: AMD Ryzen 7 5700X3D (\$209)

The AMD Ryzen 7 5700X3D is our top pick for the CPU, offering exceptional value at approximately \$209 on Newegg. This 8-core, 16-thread processor with 96MB of L3 cache leverages AMD's 3D V-Cache technology, making it a standout for 1080p and 1440p gaming. It outperforms pricier options like the Ryzen 5 7600X in gaming benchmarks due to its large cache, which reduces latency and minimizes stut-

ters. The 5700X3D uses the AM4 socket, which pairs with more affordable motherboards and DDR4 RAM, keeping costs down compared to AM5-based systems that require DDR5. For those prioritizing gaming performance on a budget, this CPU is hard to beat.

Motherboard: Gigabyte B550M K (\$90)

The Gigabyte B550M K, priced at around \$90 at Micro Center, is a reliable Micro-ATX motherboard that supports the Ryzen 7 5700X3D. It offers essential features like Q-Flash Plus for BIOS updates without a CPU, PCIe 4.0 for fast storage and GPU connectivity, and four DIMM slots for RAM. While it lacks Wi-Fi, its robust power delivery and compatibility with AM4 processors make it a cost-effective choice. For those needing Wi-Fi, consider the MSI B550M PRO-VDH WiFi for \$110, which adds Wi-Fi 6 and more USB ports. This motherboard ensures compatibility with DDR4 RAM, further reducing costs compared to DDR5-based AM5 boards.

GPU: AMD Radeon RX 7800 XT (\$480)

For the graphics card, the AMD Radeon RX 7800 XT, priced at approximately \$480 on Amazon, delivers outstanding 1440p gaming performance. With 16GB of VRAM, it handles modern games with high settings and supports AMD's FSR 3 for improved frame rates. It competes closely with NVIDIA's RTX 5070 Ti but offers better value, especially for gamers who don't prioritize ray tracing. The RX 7800 XT outperforms older cards like the RTX 3060 Ti and is a significant upgrade for budget-conscious builds. Its price has stabilized in 2025, making it a sweet spot for performance per dollar. If you're on a tighter budget, the Intel Arc B580 at \$249 offers solid 1080p performance but falls short at 1440p.

RAM: Corsair Vengeance LPX 32GB (2x16GB) DDR4 3200MHz (\$65)

RAM prices are expected to decline by 8-10% in early 2025, making DDR4 an excellent value choice. The Corsair Vengeance LPX 32GB (2x16GB) DDR4 3200MHz kit, priced at \$65 on Amazon, provides ample capacity for gaming and multitasking. DDR4 is compatible with the AM4 platform, saving money over DDR5, which is pricier and unnecessary for most users in this build. The 3200MHz speed is sufficient for the Ryzen 7 5700X3D, and dual-channel configuration ensures optimal performance. For those planning future upgrades, this kit offers headroom for overclocking.

SSD: Samsung 990 Pro 1TB NVMe M.2 (\$100)

Storage is critical for fast load times, and the Samsung 990 Pro 1TB NVMe M.2 SSD, priced at \$100 on Amazon, is a top-tier choice. With read speeds up to 7,450MB/s and write speeds up to 6,900MB/s, it ensures quick boot times and game loading. Its five-year warranty and high endurance (1200 TBW) make it reliable for long-term use. While PCIe 5.0 SSDs exist, PCIe 4.0 drives like the 990 Pro offer nearly identical real-world performance for less, making them ideal for this build. For additional storage, a 2TB WD Black SN770 at \$130 is a great secondary drive.

Power Supply: Corsair RM850e 850W 80+ Gold (\$110)

A reliable power supply is crucial, and the Corsair RM850e 850W 80+ Gold, priced at \$110 on Amazon, fits the bill. This fully modular PSU is ATX 3.1 and PCIe 5.1 compliant, supporting modern GPUs like the RX 7800 XT and future upgrades. Its 80+ Gold efficiency ensures low power consumption, and the 105°C-rated capacitors provide durability. At 850W, it offers ample headroom for overclocking or adding high-end components later. Refurbished units are available for as low as \$65 at Scan UK, but new units are recommended for reliability.

Case: NZXT H5 Flow (\$95)

The NZXT H5 Flow, priced at \$95 at Best Buy, is a mid-tower case with excellent airflow and a sleek design. It supports ATX and Micro-ATX motherboards, includes two pre-installed fans, and offers ample space for cable management. Its tempered glass side panel and support for multiple storage drives make it versatile for future upgrades. For budget-conscious builders, the Cooler Master MasterBox TD500 (\$80) is a solid alternative with similar features. Both cases ensure proper cooling for our components, preventing thermal throttling.

Cooling: Thermalright Peerless Assassin 120 SE (\$40)

The Ryzen 7 5700X3D doesn't include a stock cooler, so we've chosen the Thermalright Peerless Assassin 120 SE, a dual-tower air cooler priced at \$40 on Amazon. It rivals more expensive AIO liquid coolers in performance, keeping the CPU below 70°C under load. Its quiet operation and easy installation make it ideal for budget builds. For those preferring liquid cooling, a 240mm AIO like the NZXT Kraken 240 (\$130) is an option, but the air cooler offers better value.

Total Cost and Performance

The total cost of this build is approximately \$989, leaving room for peripherals or upgrades:

- **CPU:** AMD Ryzen 7 5700X3D - \$209
- **Motherboard:** Gigabyte B550M K - \$90
- **GPU:** AMD Radeon RX 7800 XT - \$480
- **RAM:** Corsair Vengeance LPX 32GB DDR4 - \$65
- **SSD:** Samsung 990 Pro 1TB - \$100
- **PSU:** Corsair RM850e 850W - \$110
- **Case:** NZXT H5 Flow - \$95
- **Cooler:** Thermalright Peerless Assassin 120 SE - \$40

Total: \$989

This build delivers excellent 1440p gaming performance, handling titles like *Cyberpunk 2077* or *Starfield* at high settings with 60+ FPS. It also supports productivity tasks like video editing and multitasking, thanks to the 8-core CPU and 32GB of RAM. The AM4 platform keeps costs low while offering upgrade paths to other Ryzen 5000-series CPUs. The RX 7800 XT ensures future-proofing with 16GB of VRAM, and the SSD provides fast storage for games and applications.

Why This Build?

- **Value:** Each component maximizes performance per dollar, leveraging deals and price drops (e.g., DDR4 savings and stable GPU pricing).
 - **Compatibility:** All parts are compatible, with the AM4 platform supporting affordable DDR4 and a wide range of motherboards.
 - **Future-Proofing:** The PSU, GPU, and SSD support next-gen standards (PCIe 4.0/5.0), and the case allows for expansion.
- Reliability:** Trusted brands like AMD, Samsung, and Corsair ensure longevity and performance.

Tips for Buying

- **Check Deals:** Monitor Amazon, Newegg, and Micro Center for discounts, especially post-Prime Day or Black Friday sales.
- **Tariffs:** Potential 2025 tariffs may increase prices (up to 54% on Chinese components), so consider buying soon.

Used Market: For tighter budgets, check eBay for used Ryzen 5000 CPUs or RX 6000-series GPUs, but verify condition and warranty. This \$989 build offers unmatched value in 2025, delivering high-end performance for gaming and productivity while staying under \$1,000. For personalized tweaks or specific needs (e.g., 4K gaming or compact builds), consult resources like PCPartPicker or Tom's Hardware for additional guidance. Happy building!

If you think this was a good article, you should read the comment about it on page 2 in the paragraph starting with "A thought."

A LITTLE HUMOR

A man walks into a bar.

The bartender asks "Why the long face?"

The man replies "I just found out my wife is sleeping with another man. I've decided I'm going to drink myself to death."

The bartender looks shocked and says "I'm sorry I can't help you kill yourself."

The man asks "Well what would you do in my situation?"

The bartender puffs himself up a bit and says "If I found out a guy was sleeping with my wife I wouldn't sit around feeling sorry for myself, I'd kill the guy."

The man jumps up from his stool and shouts "That's a great idea! Thanks!" and runs out of the bar.

A couple of hours goes by and the bartender is starting to get nervous when the man walks back into the bar with a smile on his face.

"Did you kill the guy?" The bartender asks nervously.

"Nope! I slept with your wife. Whiskey please."

North Orange County Computer Club

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To All Members:

The line above your mailing address now shows your joindate. Please use your join **month** to choose when to renew your membership.

Dated Material – Please deliver ASAP

Membership Level (\$)	1 Year	3 Years
Individual Member	35	90
Each Additional Family Member	15	40
Full-Time* Enrolled College Student	20	
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*Minimum 12 Semester Hours		
Business Member + Ad (Business Card)	25	
Business Member + Ad (¼ Page, ½ Page)	65,	100
Business Member + Ad (Full Page)	175	
Contributing Member	75	
Supporting Member	100	
Advocate Member	250	
Patron Member	500	

Directions to the NOCCC meeting location



Enter CA-55 N (Costa Mesa Freeway) crossing Interstate 5 toward Anaheim/Riverside for 9 miles. *Notice freeway and street signs stating "Chapman University."* Exit toward E Chapman Ave. Turn right onto N Tustin St. Turn left onto E Walnut Ave.

1) Turn left past N. Center St. for the **best place to park** in the underground parking structure (Lastinger under the sports field). Pay the small fee (\$2) to park Ask members or help@noccc.org about parking details, restrictions, and our price break!

2) Turn left onto N Center St. On the right is the Hashinger Science Center, 346 N Center St. Orange California. Parking on the University side is free. Parking on the residential side is a city violation that may cost you a **tow away and a ticket!**