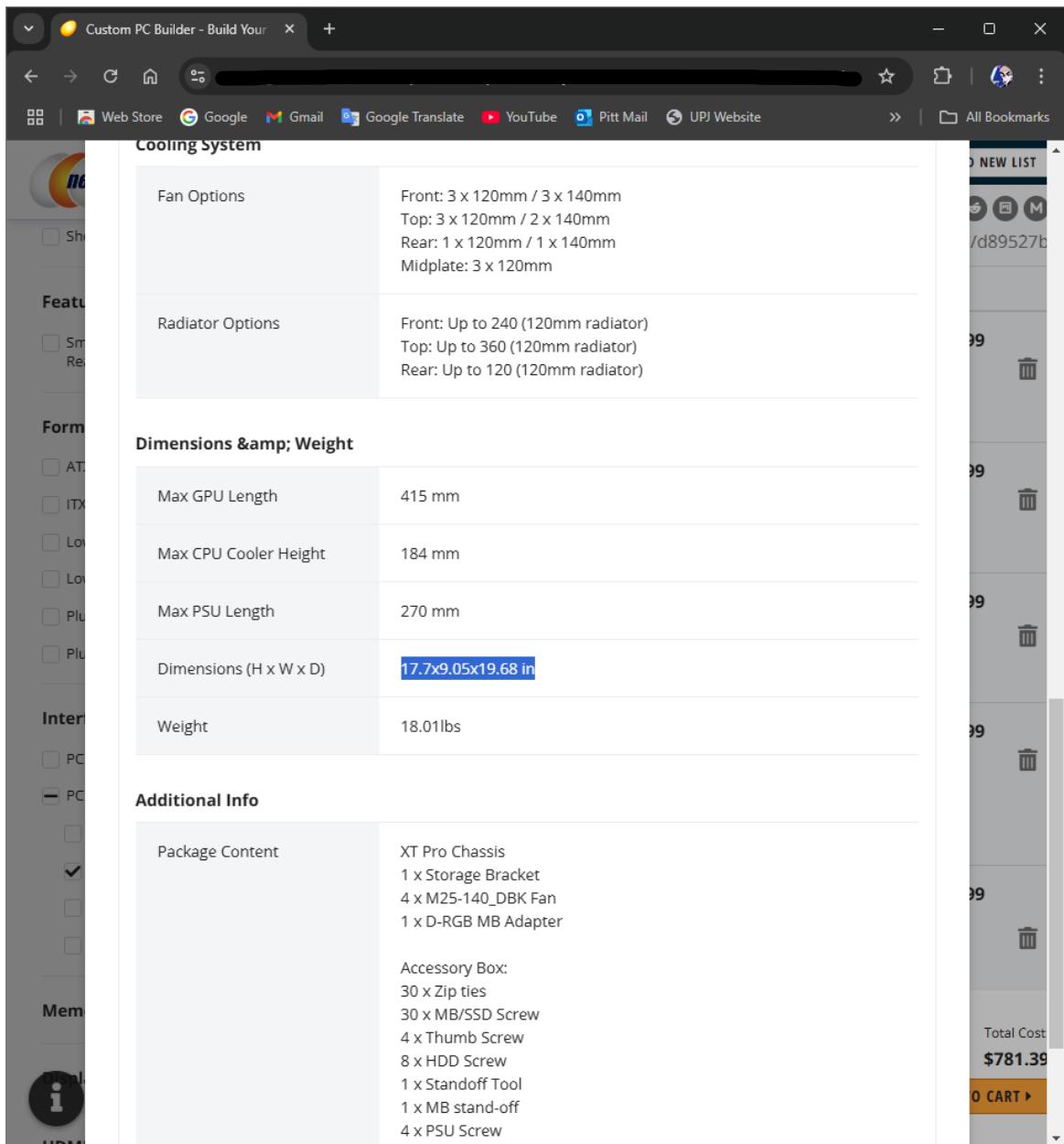


Credit: I'm using the Newegg Corporation website; all the PC components info and credits go to the company.

Link: [Newegg Website](#)

Computer Components (\$782 on 11/18/2024 ~ Discount: - \$21) Link: [PC List](#)

1. **PC Case/Chassis:** Phanteks XT Pro Ultra Mid-Tower (\$80)
 - a. I selected this case because it has the dimensions that are provided by you, which looks like somewhere around 20in in height, and the case is 17.7in



The screenshot shows the 'Custom PC Builder - Build Your' interface on a computer screen. The main content area displays the 'Phanteks XT Pro Ultra Mid-Tower' product details. The 'Cooling System' section lists fan options: Front: 3 x 120mm / 3 x 140mm, Top: 3 x 120mm / 2 x 140mm, Rear: 1 x 120mm / 1 x 140mm, and Midplate: 3 x 120mm. The 'Dimensions & Weight' section provides the following dimensions: Max GPU Length (415 mm), Max CPU Cooler Height (184 mm), Max PSU Length (270 mm), and Dimensions (H x W x D) listed as **17.7x9.05x19.68 in**. The 'Additional Info' section details the package content, which includes the XT Pro Chassis, 1 x Storage Bracket, 4 x M25-140_DBK Fan, 1 x D-RGB MB Adapter, and an Accessory Box containing 30 x Zip ties, 30 x MB/SSD Screw, 4 x Thumb Screw, 8 x HDD Screw, 1 x Standoff Tool, 1 x MB stand-off, and 4 x PSU Screw. The total cost for the item is listed as **\$781.39**.

2. **Processor (CPU):** Intel Core i7-12700KF LGA 1700 (\$194)

- a. I selected this CPU because it's a great price by looking at a 3-years old i7 processor with unlocked features, which gives turbo boost up to 5.0GHz

Details	
CPU Socket Type	LGA 1700
Core Name	Alder Lake
# of Cores	12-Core (8P+4E)
# of Threads	20-Threads
Operating Frequency	P-core Base Frequency: 3.6 GHz E-core Base Frequency: 2.7 GHz
Max Turbo Frequency	Intel Turbo Boost Max Technology 3.0 Frequency: Up to 5.0 GHz Single P-core Turbo Frequency: Up to 4.9 GHz Single E-core Turbo Frequency: Up to 3.8 GHz
L2 Cache	12MB
L3 Cache	25MB
Manufacturing Tech	Intel 7
Instruction Set	64-Bit
Hyper-Threading Support	Yes
Memory Types	DDR4 3200 / DDR5 4800
Memory Channel	2
Max Memory Size	128 GB
Max Memory Bandwidth	76.8 GB/s
Virtualization Technology	Virt

3. CPU Cooler: Corsair iCUE H100i Liquid cooler (\$80)

- a. I selected this cooler because it's the only one currently works great with the processor, and it provides good cooling system

Corsair iCUE H100i RGB Elite Liquid CPU Cooler (16 Dynamic RGB LEDs, 120mm AF Elite Series FDB Fans, 240mm Radiator, iCUE Software Compatible, LGA 1851, 1700, 1200, 115X, 2066, and AM4 Sockets) Black

Eligible for Black Friday Price Protection

VIEW PRODUCT DETAILS **SELECTED**

Specs **Reviews**

LEARN MORE ABOUT CORSAIR CW-9060058-WW

Best Seller Ranking #2 in Water / Liquid Cooling

Model

Brand	CORSAIR
Model	CW-9060058-WW
Type <small>?</small>	Liquid Cooling System

Block

Block Compatibility	Intel 2066 / 2011 / 1700 / 1366 / 1200 / 1156 / 1155 / 1151 / 1150 AMD AM5 / AM4 / sTRX4 / sTR4
Block Material <small>?</small>	Copper

Radiator

4. **Motherboard (MB):** MSI Pro H610M-G DDR4 LGA 1700 (\$100)
- I selected this MB because it's from MSI, and it has all the requirements needed for the components on this list
 - Dual monitor can be connected through one DisplayPort, and one HDMI Port

The screenshot shows a web-based custom PC builder interface. On the left, there's a sidebar with various component categories like Processor, Motherboard, RAM, GPU, Storage, Power Supply, Case, and Fans. The 'RAM' section is currently selected and has a checkmark icon next to it. The main content area displays detailed specifications for the selected RAM:

Number of Memory Slots	2x288pin (DDR4)
Memory Standard	Supports 1R 2133/ 2666/ 3200 MHz (by JEDEC & POR)
Maximum Memory Supported	64GB
Channel Supported ?	Dual Channel
Memory Feature	Supports non-ECC, un-buffered memory * Please refer to www.msi.com for more information on compatible memory

Expansion Slots

PCI Express 4.0 x16	1 x PCIe x16 slot (From CPU) Supports up to PCIe 4.0 x16
PCI Express x1	1 x PCIe x1 slot (From H610 chipset) Supports PCIe 3.0 x1

Storage Devices

SATA 6Gb/s ?	4 x SATA 6Gb/s ports (From H610 chipset)* * SATA7 will be unavailable when installing M.2 SATA SSD in the M2_1 slot
M.2	1 x M.2 slot (Key M, from H610 chipset)* Supports up to PCIe 3.0 x4 Supports up to SATA 6Gb/s Supports 2242/ 2260/ 2280 storage devices Supports Intel Smart Response Technology for Intel Core processors * SATA7 will be unavailable when installing M.2 SATA SSD in the M2_1 slot

Onboard Audio

Total Cost: \$781.39

O CART ▶

5. Memory (RAM): Corsair Vengeance LPX DDR4 3200 32GB (\$54)

- a. I selected this RAM because It's a great price from Corsair that offers DDR4 and has 32GB

The screenshot shows a software interface for building a custom PC. On the left, there's a sidebar with various component categories like CPU, GPU, RAM, Storage, Power Supply, Case, and Fans. The RAM section is currently selected, indicated by a checkmark. In the center, there's a detailed product page for Vengeance LPX RAM. The top part shows the Series (Vengeance LPX) and Model (CMK32GX4M2E3200C16). Below that is a 'Details' table with the following information:

Capacity	32GB (2 x 16GB)
Type	288-Pin PC RAM
Speed	DDR4 3200 (PC4 25600)
CAS Latency	16
Timing	16-20-20-38
Voltage	1.35V
BIOS/Performance Profile	Intel XMP 2.0
Color	Black
Heat Spreader	Anodized Aluminum
Features	<p>Designed for high-performance overclocking Each Vengeance LPX module is built with a pure aluminum heatspreader for faster heat dissipation and cooler operation; and the eight-layer PCB helps manage heat and provides superior overclocking headroom. Each IC is individually screened for performance potential.</p> <p>Designed for great looks Available in multiple colors to match your motherboard, your components, or just your style.</p>

On the right side of the screen, there's a vertical sidebar with a 'NEW LIST' button at the top, followed by several items each with a delete icon. At the bottom of this sidebar, it says 'Total Cost \$781.39' and has a 'CART' button.

6. Hard Drive (SSD): WD Green SN350 NVMe M.2 1TB (\$61)

- I selected this SSD because it has 1TB capacity and a PCIe 3.0 x4 interface, which is provided by the storage interface on the MB

Device Type: Internal Solid State Drive (SSD)

Used For: Consumer

Details

Form Factor	M.2 2280
Capacity	1TB
Memory Components	QLC
Interface	PCI-Express 3.0 x4
Protocol	NVMe

Performance

Max Sequential Read	Up to 3200 MBps
Max Sequential Write	Up to 2500 MBps
4KB Random Read	Up to 300,000 IOPS
4KB Random Write	Up to 400,000 IOPS
Terabytes Written (TBW)	100TB
MTTF	1M hours

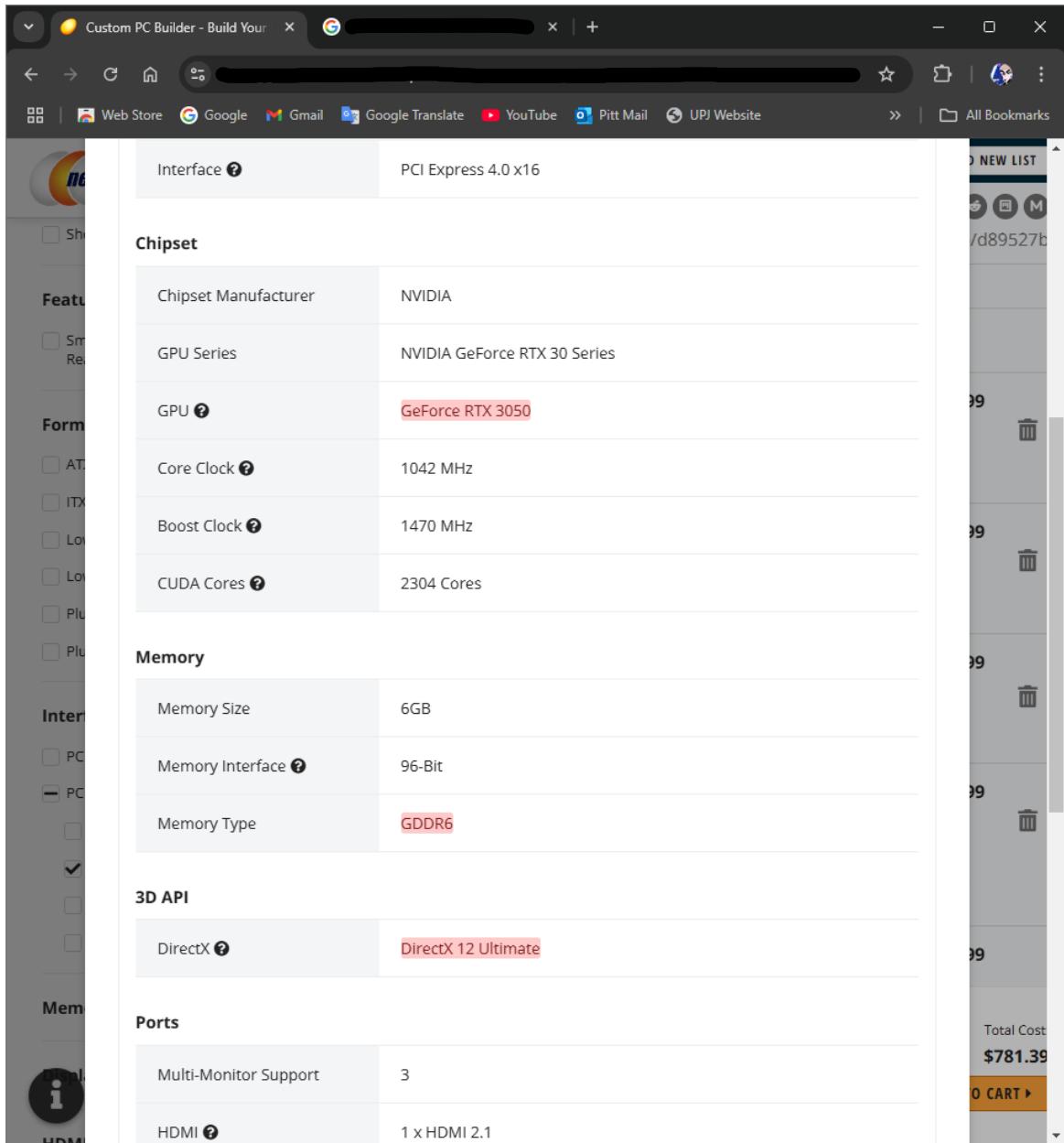
Features

Total Cost: \$781.39

CART ►

7. Graphics Card (GPU): PNY Verto GeForce RTX 3050 GDDR6 (\$175)

- I selected this GPU because it provided top quality and top performance for this PC list, especially the GDDR6 design, and DirectX version 12
- This could be the best GPU for this PC build, no other recommendation
- If ever want to upgrade, MB, GPU, and PSU will need to upgrade



The screenshot shows a web-based custom PC builder interface. On the left, there's a sidebar with various categories like Features, Form Factor, and Memory. The main content area displays detailed specifications for a GPU:

Interface	
PCI Express 4.0 x16	

Chipset

Chipset Manufacturer	NVIDIA
GPU Series	NVIDIA GeForce RTX 30 Series
GPU	GeForce RTX 3050
Core Clock	1042 MHz
Boost Clock	1470 MHz
CUDA Cores	2304 Cores

Memory

Memory Size	6GB
Memory Interface	96-Bit
Memory Type	GDDR6

3D API

DirectX	DirectX 12 Ultimate
---------	---------------------

Ports

Multi-Monitor Support	3
HDMI	1 x HDMI 2.1

In the bottom right corner, there's a summary section showing "Total Cost \$781.39" and a "CART" button.

8. **Power Supply (PSU):** MSI MAG A550BN 550W ATX12V (\$59)

- I selected this PSU because it has 550 Watts of usage, which is required by this PC list, plus is MSI

The screenshot shows a web browser window for a custom PC builder. The main content area displays the product details for the MSI MAG A550BN power supply. The left sidebar has a tree view of system components under 'Build Your PC'. The top navigation bar includes links for Web Store, Google, Gmail, Google Translate, YouTube, Pitt Mail, and UPJ Website. The main content area has tabs for 'Specs' (selected) and 'Reviews'. The title 'LEARN MORE ABOUT MSI MAG A550BN' is displayed. A 'Best Seller Ranking' section shows '#19 in Power Supplies'. The 'General' section lists 'Brand' as MSI and 'Model' as MAG A550BN. The 'Details' section provides the following specifications:

Color	Black
Type	ATX12V
Maximum Power	550 W
Fans	120mm
PFC	Active
Main Connector	20+4Pin
+12V Rails	Single
PCI-Express Connector	2 x 6+2-Pin
SATA Power Connector	5
Max PSU Length	140 mm

A vertical sidebar on the right shows a 'NEW LIST' with three items, each with a delete icon. At the bottom right, it says 'Total Cost \$781.39' and '0 CART >'. The overall theme is dark grey.

9. Operation System (OS): Microsoft Windows 11 Pro (USB) (\$200)

Windows 11 Pro (USB - English)

Microsoft

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Designed for the world of hybrid work, Windows 11 can help you work more simply and seamlessly from anywhere. Buy and download Windows 11 for Professionals to enjoy:

- A simple, powerful UX helps improve productivity and focus.
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This version is designed for PCs that need a new license for Windows and meet the minimum system requirements (<https://www.microsoft.com/windows/windows-11-specifications>) for Windows 11. If your PC is running Windows 10 and you are unable to use Windows Update to install the free upgrade to Windows 11, you will not be able to install this version of Windows 11. Discover a variety of new PCs with Windows 11 preinstalled at <https://www.microsoft.com/windows/computers>.

\$199.99

Choose your configuration

USB - English
 Download

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Alignments

1. Unplug the cables and move the *Arris SURFboard SBV-3202* cable modem to the bottom shelf and lay it horizontally, and plug the cables back in.
2. Unplug the cables from both *SONICWALL TZ-205* firewall & *D-Link DGS-108* Gigabit Switch and move them to the bottom shelf, and plug everything back in.
3. Move the *Synology DS216play* ethernet LAN to the right of the top shelf, along with the telephone (Telephone being far right).
4. Place the PC on the far left of the top shelf, plug in the necessary cables.