

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' page on the Newegg website. The 'Cooling System' section is expanded, showing fan and radiator options. Below this, the 'Dimensions & Weight' section is expanded, displaying the following specifications:

Dimensions & Weight	
Max GPU Length	415 mm
Max CPU Cooler Height	184 mm
Max PSU Length	270 mm
Dimensions (H x W x D)	17.7x9.05x19.68 in
Weight	18.01lbs

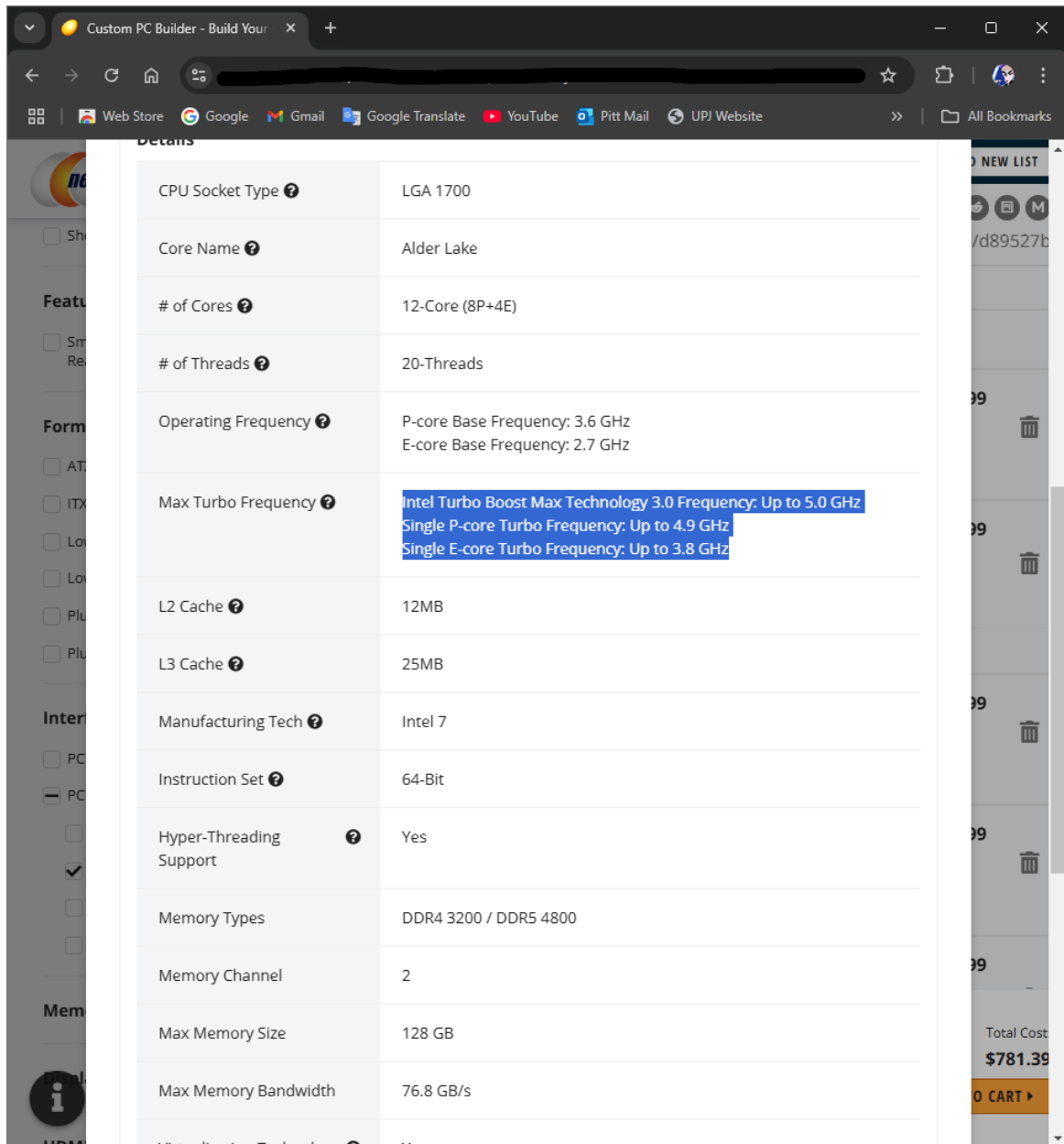
Below the dimensions, the 'Additional Info' section is expanded, showing the package content and accessory box details:

Additional Info	
Package Content	XT Pro Chassis 1 x Storage Bracket 4 x M25-140_DBK Fan 1 x D-RGB MB Adapter
Accessory Box:	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 4 x PSU Screw

On the right side of the page, a sidebar shows a 'NEW LIST' with various icons and a 'Total Cost' of \$781.39, with a 'GO CART' button below it.

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



The screenshot shows a web browser window with a 'Custom PC Builder' tab. The browser's address bar is empty, and the page title is 'Custom PC Builder - Build Your...'. The page features a sidebar on the left with various categories like 'Features', 'Form', 'Inter', and 'Mem'. The main content area displays a table of CPU specifications. The table has two columns: a property name and its value. The 'Max Turbo Frequency' row is highlighted with a blue background, and its value is also highlighted with a blue background. The 'Total Cost' is shown as \$781.39, and there is a 'GO CART' button.

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 ?	Yes

Total Cost: \$781.39
GO CART

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

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Best Seller Ranking	#2 in Water / Liquid Cooling
Model	
Brand	CORSAIR
Model	CW-9060058-WW
Type ?	Liquid Cooling System
Block	
Block Compatibility	Intel 2066 / 2011 / 1700 / 1366 / 1200 / 1156 / 1155 / 1151 / 1150 AMD AM5 / AM4 / sTRX4 / sTR4
Block Material ?	Copper
Radiator	

Total Cost: **\$781.39**
[0 CART](#)

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 browser window with a custom PC builder interface. The browser's address bar and tabs are visible at the top. The left sidebar contains various configuration options, some of which are partially visible. The main content area displays the following specifications:

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

On the right side of the interface, there is a sidebar with a 'NEW LIST' button, a list of items with trash icons, and a 'Total Cost' section showing '\$781.39' and a '0 CART' button.

5. **Memory (RAM):** Corsair Vengeance LPX DDR4 3200 32GB (\$54)
- I selected this RAM because It's a great price from Corsair that offers DDR4 and has 32GB

The screenshot shows a web browser window with a custom PC builder interface. The main content area displays the details of a selected RAM module. On the left, there is a sidebar with various categories like 'Featu', 'Form', 'Inter', and 'Mem'. The main table lists the following details:

Series	Vengeance LPX
Model	CMK32GX4M2E3200C16
Details	
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 interface, there is a 'NEW LIST' button, a 'Total Cost' of \$781.39, and a 'GO CART' button.

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

- a. 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

The screenshot shows a web browser window with a custom PC builder interface. The main content area displays the specifications for a selected SSD. The browser's address bar shows a URL starting with 'https://'. The page has a dark theme. On the left, there is a sidebar with various component categories like 'Storage', 'Motherboard', 'CPU', 'GPU', 'RAM', 'PSU', 'Case', 'Monitor', and 'Keyboard/Mouse'. The main area is divided into sections: 'Device Type', 'Used For', 'Details', 'Performance', and 'Features'. The 'Details' section lists specifications like Form Factor (M.2 2280), Capacity (1TB), Memory Components (QLC), Interface (PCI-Express 3.0 x4), and Protocol (NVMe). The 'Performance' section lists benchmarks like 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), and MTTF (1M hours). On the right, there is a 'NEW LIST' button and a 'Total Cost' of \$781.39 with a '0 CART' button.

Device Type	
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	
Features	NVMe Power is Now Within Reach

Total Cost: \$781.39
0 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 browser window with the title "Custom PC Builder - Build Your...". The browser's address bar is empty, and the bookmarks bar shows links to Web Store, Google, Gmail, Google Translate, YouTube, Pitt Mail, and UPJ Website. The website content is a configuration page for a PC build, with a sidebar on the left containing various filter options like "Featu", "Form", "Inter", and "Mem". The main content area displays the following specifications:

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

On the right side of the configuration page, there is a "NEW LIST" button, a list of items with trash icons, and a "Total Cost" of \$781.39. At the bottom right, there is a "0 CART" button.

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

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

Custom PC Builder - Build Your

Specs Reviews

LEARN MORE ABOUT MSI MAG A550BN

Best Seller Ranking #19 in [Power Supplies](#)

General

Brand	MSI
Model	MAG A550BN

Details

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

NEW LIST

Total Cost
\$781.39

GO CART

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

Windows 11 Pro (USB - English)

Microsoft

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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

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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.