

Desktop/Laptop/Tablet Recommended minimum Technical Specifications



Recommended PC Desktop Hardware

Note: Windows 10 Professional 64 is recommended if you do not use any specialized administrative software. If an earlier Windows system is required consult with OTECH on installation of a virtual machine for the specialized software.

Desktop – minimum

Expect to use the computer for basic productivity, running multiple applications such as e-mail, web browsing, word processing, digital streaming, and photo organization. [See page 18 for minimum monitor specifications.](#)

Processor	at least 8th Generation Intel® Core™ i5-8400 (2.80GHz, up to 4.00GHz with Turbo Boost, 9MB Cache)
Operating System	<ul style="list-style-type: none">• Windows 10 Pro
Memory	At least 16GB DDR4 2666 MHz
Storage	<ul style="list-style-type: none">• At least 500 GB 7200 RPM or Up to 1 TB PCIe SSD
Optical Drive	Slim DVD-RW Multiburner (Optional)
Graphics	Integrated Intel® UHD Graphics 630

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Expansion Slots	<ul style="list-style-type: none"> • PCIe x16, or PCIe x16 (x4 link), or PCIe x1
Power	At least 210 W 85%
Dimensions	Small Form Factor (SFF)
Weight	Starting from 13.2 lbs (6 kg)
Security	<ul style="list-style-type: none"> • TPM 2.0 • Smart USB protection • Kensington® lock slot • Padlock loop
Connectivity	Intel® Wireless AC 9560 (2 x 2) with vPro™ + Bluetooth® 5.0
Front Ports	<ul style="list-style-type: none"> • USB 3.1 Gen 1 Type-C • 2x USB 3.1 Gen 1 (with up to 5 Gbps data transfer) • 2x USB 3.1 Gen 2 (with up to 10 Gbps data transfer) • Optional card reader • Combo + mic

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Rear Ports	<ul style="list-style-type: none"> • 4x USB 3.1 Gen 1 (with up to 5 Gbps data transfer) • VGA • 2x DisplayPort™ • Serial (optional 2nd serial), RJ4 Gigabit Ethernet, Audio speaker
Monitor	<ul style="list-style-type: none"> • minimum 21.5 See Specifications on page 18
Warranty	<ul style="list-style-type: none"> • 3 to 5 Year Onsite Next Business Day Manufacturer's warranty
Green Certifications	<ul style="list-style-type: none"> • Energy Star® 7.0 • EPEAT™ Gold • RoHS • ErP LOT 3 • TÜV Low Noise Certification

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Desktop – power user

In addition to the tasks above, expect to resource intensive programs for audio/video editing, graphic design, running multiple operating systems, storing large multimedia files and other processor or storage intensive situations or applications. **See page 18 for minimum monitor specifications.**

Processor	Up to 8th Generation Intel Core i7-8700 6 core processor with vPro™ (3.20GHz, up to 4.20GHz with Turbo Boost, 12MB Cache)
Operating System	<ul style="list-style-type: none"> Windows 10 Pro
Memory	At least 16GB DDR4 2666MHz
Storage	<ul style="list-style-type: none"> Up to 1TB SATA 2.5" HDD Up to 1TB M.2 PCIe SSD Optional 16GB Intel Optane Memory
Optical Drive	Optional Slim DVD-RW Multiburner
Audio	2 x 3W speakers with Dolby solution
Camera	1080p HD Smart Webcam with multi-degree rotation, plus privacy protection

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Graphics	Intel® Integrated
PSU	150 W 90%
Connectivity	Intel 9560 802.11AC vPro (2 x 2) & Bluetooth® 5.0
Side I/O Ports	<ul style="list-style-type: none"> • USB 3.1 Gen 2 with RapidCharge • USB 3.1 Gen 1 • USB-C • Headphone/Mic combo • 3-in-1 card reader (optional)
Rear I/O Ports	<ul style="list-style-type: none"> • 4 x USB 3.1 Gen 1 (one with USB Smart Power On) • DP in and out combo • RJ45, Serial (optional), AC power in
Display	<ul style="list-style-type: none"> • 23.8" FHD (1920 x 1080) Wide viewing angle, anti-glare or • 23.8" FHD (1920 x 1080) Wide viewing angle, anti-glare 10-point multitouch
Dimensions	<ul style="list-style-type: none"> • All in One Form Factor

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Warranty	3 to 5 Year Onsite Next Business Day Manufacturer's warranty
Security Features	<ul style="list-style-type: none"> • TPM 2.0 • Intrusion switch, Camera lock • BIOS-based Smart USB protection, Individual USB port disable
Certifications	<ul style="list-style-type: none"> • EPEAT™ Gold • Energy Star® 7.0 • TCO • RoHS • 65% PCC • ICE • Eye Comfort • Low Blue Light • Low Noise

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Recommended PC Laptop Hardware

Laptop – Minimum

Expect to use the computer for basic productivity, running multiple applications such as e-mail, web browsing, word processing, digital streaming, and photo organization. **Be sure to consider compatible docking stations with attachable monitors, as well as a suitable laptop bag.** See page 18 and 19 for minimum monitor and docking station specifications.

Processor	<ul style="list-style-type: none">7th Generation Intel® Core™ i5-7200U Processor (2.50GHz, up to 3.10GHz with Turbo Boost, 3MB Cache)
Operating System	<ul style="list-style-type: none">Windows 10 Pro
Graphics options	<ul style="list-style-type: none">Integrated Intel® HD Graphics 620Integrated Intel® UHD Graphics 620
Webcam	<ul style="list-style-type: none">Standard: 720p HD camera
Memory	At least 16 GB DDR4 2400 MHz
Storage	<ul style="list-style-type: none">500 GB 7200 RPM

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Audio	<ul style="list-style-type: none"> • Dolby Audio Premium™ • Dual-array microphones
Battery	<ul style="list-style-type: none"> • Up to 14 hours
Warranty	<ul style="list-style-type: none"> • 3 to 5 year onsite next business day
Display options	<ul style="list-style-type: none"> • 14.0" HD (1366 x 768) anti-glare • 14.0" FHD (1920 x 1080) IPS anti-glare • 14.0" FHD (1920 x 1080) IPS anti-glare multi-touch • 14.0" WQHD (2560 x 1440) IPS anti-glare
Security	<ul style="list-style-type: none"> • Kensington® lock slot
WLAN	<ul style="list-style-type: none"> • Intel® Dual Band 8265 Wireless-AC (2 x 2) + Bluetooth® 4.1 with vPro™

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Laptop – Power User

In addition to the tasks above, expect to leverage resource intensive programs for audio/video editing, graphic design, running multiple operating systems, storing large multimedia files, etc. **Be sure to consider compatible docking stations with attachable monitors, as well as a suitable laptop bag.** See page 18 and 19 for minimum monitor and docking station specifications.

Processor	<ul style="list-style-type: none"> Up to 8th Generation Intel® Core™ i7-8850H 6 Core Processor with vPro™ (2.60GHz, up to 4.30GHz with Turbo Boost Technology, 9MB Cache)
Operating System	<ul style="list-style-type: none"> Windows 10 Pro
Graphics Options	<ul style="list-style-type: none"> NVIDIA® Quadro® P600 4 GB NVIDIA® Quadro® P2000 4 GB
Display Options	<ul style="list-style-type: none"> 17.3" FHD (1920 x 1080) IPS, anti-glare, 300nits, 72% NTSC color gamut 17.3" UHD 4K (3840 x 2160) IPS, anti-glare, 400nits, 100% Adobe color gamut, 10-bit color depth
Memory	Up to 128 GB DDR4 2400 MHz

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Storage Options	<ul style="list-style-type: none"> • Up to 2 TB SSD • 1 TB 5400 RPM • 2 TB 7200 RPM • Up to 6 TB support (2 x 2 TB PCIe SSD + 1 x 2 TB SATA HDD)
Media Card Reader	4-in-1 SD card reader
RAID	<ul style="list-style-type: none"> • Raid 0 • Raid 1
Battery	Up to 18 hours*, 6 cell, 99 Whr
Warranty	3 to 5 year onsite next business day
Weight	Starting at 7.5 lbs (3.4 kg)
Connectivity	Intel® 9560 vPro™ 802.11 AC (2 x 2) + Bluetooth® 5.0
Ports	<ul style="list-style-type: none"> • 4 x USB 3.1 Gen 1 (one Always On) • 2 x USB 3.1 Gen 2 Type-C / Intel Thunderbolt™ 3

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	<ul style="list-style-type: none"> • 4-in-1 card reader (MMC, SD, SDHC, SDXC) • 3.5 mm audio combo jack • HDMI 2.0 • Mini DisplayPort™ 1.4
Security	<ul style="list-style-type: none"> • Kensington Lock Slot
Green Certifications	<ul style="list-style-type: none"> • EPEAT™ • ENERGY STAR® 6.1 • GREENGUARD® • RoHS compliant
Audio	<ul style="list-style-type: none"> • Dolby Audio™ Premium
AC Adapter	230watt

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Tablet – minimum

Expect to use the computer for basic productivity, running multiple applications such as e-mail, web browsing, word processing, digital streaming, and photo organization. **Be sure to consider compatible docking stations with attachable monitors, as well as a suitable tablet bag.** See page 18 and 19 for minimum monitor and docking station specifications.

Processor	Up to 8 th Generation Intel® Core™ i5-8250U Processor with vPro™ (1.60GHz, up to 3.40GHz with Turbo Boost, 6MB Cache)
Operating System	<ul style="list-style-type: none">• Windows 10 Pro
Graphics	Integrated Intel® UHD Graphics 620
Memory	Up to 16 GB LPDDR3 1866 MHz (Onboard)
Storage	Up to 1 TB PCIe SSD OPAL2.0
Camera	<ul style="list-style-type: none">• Front: 2 MP ; Rear: 8 MP

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Battery	Up to 9.5 hours*, integrated Li-ion 42 Whr
Display	13.0" QHD+ 3k (3000 x 2000) IPS multi-touch
Audio	<ul style="list-style-type: none"> • Dolby Audio™ Premium • Noise-cancelling dual-array far-field microphones
Security	<ul style="list-style-type: none"> • Fast Identity Online (FIDO) certification • dTPM 2.0 • Touch Fingerprint Reader • Kensington® lock slot
Warranty	<ul style="list-style-type: none"> • 1 Year Depot Base Warranty: Protects internal hardware only and requires mail-in repair
I/O (Input/Output) Ports	<ul style="list-style-type: none"> • 2 x USB 3.1 Gen 2** Type-C / Intel Thunderbolt 3 (Power Delivery, DisplayPort, Data transfer) • 4-in-1 MicroSD card reader • Headphone / microphone combo jack • Nano Sim slot

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Connectivity	<ul style="list-style-type: none"> WLAN: Intel® Dual Band Wireless AC 8265 (2 x 2) + Up to Bluetooth® 4.1 with vPro™
Dimensions (W x D x H)	<ul style="list-style-type: none"> Tablet: 11.96" x 8.88" x 0.35" / 304 x 225.56 x 8.9 (mm) Tablet & Keyboard: 11.96" x 8.88" x 0.59" / 304 x 225.56 x 15.1 (mm)
Weight Preference	<ul style="list-style-type: none"> Tablet : 1.69 lbs (890 g) Tablet with keyboard: 2.79 lbs (1.27 kg)
Include	<ul style="list-style-type: none"> Thin Keyboard 65W Type-C Power Adapter Tablet Pen

Desktop/Laptop/Tablet Recommended minimum Technical Specifications



Tablet – Power user

In addition to the tasks above, expect to leverage resource intensive programs for audio/video editing, graphic design, running multiple operating systems, storing large multimedia files, etc. **Be sure to consider compatible docking stations with attachable monitors, as well as a suitable tablet bag.** See page 18 and 19 for minimum monitor and docking station specifications.

Processor	Up to 8 th Generation Intel® Core™ i7-8650U Processor with vPro™ (1.90GHz, up to 4.20GHz with Turbo Boost, 8MB Cache)
Operating System	<ul style="list-style-type: none">Windows 10 Pro
Graphics	Integrated Intel® UHD Graphics 620
Memory	Up to 16 GB LPDDR3 1866 MHz (Onboard)
Storage	Up to 1 TB PCIe SSD OPAL2.0
Camera	<ul style="list-style-type: none">Front: 2 MP

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	<ul style="list-style-type: none"> • Rear: 8 MP
Battery	Up to 9.5 hours*, integrated Li-ion 42 Whr
Display	13.0" QHD+ 3k (3000 x 2000) IPS multi-touch
Audio	<ul style="list-style-type: none"> • Dolby Audio™ Premium • Noise-cancelling dual-array far-field microphones
Security	<ul style="list-style-type: none"> • Fast Identity Online (FIDO) certification • dTPM 2.0 • Touch Fingerprint Reader • Kensington® lock slot
Warranty	<ul style="list-style-type: none"> • 1 Year Depot Base Warranty: Protects internal hardware only and requires mail-in repair

Desktop/Laptop/Tablet Recommended minimum Technical Specifications



I/O (Input/Output) Ports	<ul style="list-style-type: none"> • 2 x USB 3.1 Gen 2** Type-C / Intel Thunderbolt 3 (Power Delivery, DisplayPort, Data transfer) • 4-in-1 MicroSD card reader • Headphone / microphone combo jack • Nano Sim slot
Connectivity	<ul style="list-style-type: none"> • WLAN: Intel® Dual Band Wireless AC 8265 (2 x 2) + Up to Bluetooth® 4.1 with vPro™
Dimensions (W x D x H)	<ul style="list-style-type: none"> • Tablet: 11.96" x 8.88" x 0.35" / 304 x 225.56 x 8.9 (mm) • Tablet & Keyboard: 11.96" x 8.88" x 0.59" / 304 x 225.56 x 15.1 (mm)
Weight Preference	<ul style="list-style-type: none"> • Tablet : 1.69 lbs (890 g) • Tablet with keyboard: 2.79 lbs (1.27 kg)
Include	<ul style="list-style-type: none"> • Thin Keyboard • 65W Type-C Power Adapter • Tablet Pen

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*Monitor Minimum Technical Specifications

Maximum Resolution	1920 x 1080
Connections	HDMI 1.4, VGA, DP
Display Type	IPS
Brightness	250 cd/m2
Aspect Ratio	16:9
Stand	Lift, Tilt, Swivel, Pivot
Brightness	250 nits
Refresh Time	6 ms
Screen Illumination	LED Backlight
Max Colors Built in Screen	16.7 Million
Contrast Ratio	1000:1
Viewable Image Size Inches	21.5
Power Supply Type	Internal
Contrast Ratio	1000:1
Preset Display Modes	HDMI 17; DP 17
Response Time	4ms/6ms/14ms (extreme/default/off)
Panel Type	In-Plane Switching
Stand	Lift, Tilt, Pivot, Swivel
EPEAT	Gold
Swivel	±45°
Tilt	-5 to 30 degrees
Monitor Technology	IPS
Video Input	VGA + HDMI 1.4 + DP1.2
Energy Star	7
EPEAT	Gold
Supported Operating Systems	OS Independent
Warranty Period	Three Year
Warranty	3 years

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****Thunderbolt 3 Docking Station Minimum Technical Specifications**

Thunderbolt 3 connector	2
USB 3.0 connector	3
DisplayPort (DP) connector	1
DisplayPort connector	1
VGA connector	1
HDMI connector	1
Security lock slot	1
Always on USB 3.0 Connector	1
Headset & microphone combo connector	1
Power connector	1
Up to 3 external monitors	*
Ethernet Connector 1GB	1