ACE MUSTANG W650R BUYING GUIDE WITH UPGRADES

15.6" FHD/144Hz/WVA/72% NTSC/Matte Display with NVIDIA G-Sync Technology, i5-9600K (3.7 GHz), NVIDIA GeForce RTX 2060 w/6GB GDDR6, 16GB DDR4 2400 SDRAM (1x16G), Western Digital Blue SN500 M.2 500GB NVMe SSD, Integrated 2M FHD Digital Video Camera, Finger Print Reader, Killer Dual Band Wireless-AC N1550 M.2 AC + BT Combo Card, Killer E2400 Ethernet, Full Color Backlit Keyboard and MS Windows 10 Home, 3 Year Warranty

**S2,376.00**

**17.3" FHD/144Hz/WVA/72% NTSC/Matte/G-Sync ==> 17.3" QFHD/Matte/G-Sync +$235**

**Killer Dual Band Wireless-AC N1550 M.2 AC + BT Combo Card ==> Intel Dual Band Wireless-AC 9260 M.2 AC + BT Combo Card +$215**

**NVIDIA GeForce RTX 2060 w/6GB GDDR6 ==> NVIDIA GeForce RTX 2070 w/8GB GDDR6 +$325**

==> NVIDIA GeForce RTX 2080 w/8GB GDDR6 +$840

<table>
<thead>
<tr>
<th>SYSTEM CPU UPGRADE</th>
<th>M.2 SSD (Slot 1) UPGRADE</th>
<th>HARD DISK DRIVE UPGRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE i5-9600K 3.7 GHz Standard</td>
<td>WD Blue M.2 1TB</td>
<td>$97.00</td>
</tr>
<tr>
<td>CORE i7-9700K 3.6 GHz $185.00</td>
<td>WD Blue M.2 2TB</td>
<td>$227.00</td>
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<tr>
<td>CORE i9-9900K 3.6 GHz $255.00</td>
<td>Samsung 860EVO M.2 1TB</td>
<td>$123.00</td>
</tr>
<tr>
<td>16GB DDR4 2400 (1x16GB) Standard</td>
<td>WD Black SN750 NVMe 500GB</td>
<td>$69.00</td>
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<tr>
<td>16GB DDR4 2400 (2x8GB) $29.00</td>
<td>WD Black SN750 NVMe 500GB</td>
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<td>32GB DDR4 2400 (2x16GB) $123.00</td>
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<td>64GB DDR4 2400 (4x16GB) $238.00</td>
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<td>16GB DDR4 3000 (1x16GB) $65.00</td>
<td>Samsung 970Evo Plus NVMe 500GB</td>
<td>$218.00</td>
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<tr>
<td>32GB DDR4 3000 (2x16GB) $173.00</td>
<td>Samsung 970Evo Plus NVMe 500GB</td>
<td>$533.00</td>
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<tr>
<td>128GB DDR4 2666 (4 x 32GB) $745.00</td>
<td>Samsung 970 Pro NVMe 512GB</td>
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<td>$327.00</td>
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**SYSTEM MEMORY UPGRADE**

| 16GB DDR4 2400 (1x16GB) Standard | WD Black SN500 NVMe 500GB | $69.00 |
| 16GB DDR4 2400 (2x8GB) $29.00 | WD Black SN500 NVMe 500GB | $186.00 |
| 32GB DDR4 2400 (2x16GB) $123.00 | Samsung 860 Evo M.2 1TB | $29.00 |
| 64GB DDR4 2400 (4x16GB) $238.00 | Samsung 860 Evo M.2 1TB | $78.00 |
| 16GB DDR4 3000 (1x16GB) $65.00 | Samsung 860 Evo M.2 1TB | $218.00 |
| 32GB DDR4 3000 (2x16GB) $173.00 | Samsung 860 Evo M.2 1TB | $533.00 |
| 64GB DDR4 3000 (4x16GB) $616.00 | Samsung 860 Evo M.2 1TB | $1,100.00 |
| 128GB DDR4 2666 (4 x 32GB) $745.00 | Samsung 970 Pro NVMe 512GB | $129.00 |
| 128GB DDR4 2666 (4 x 32GB) $745.00 | Samsung 970 Pro NVMe 512GB | $327.00 |

**OS UPGRADE OPTIONS | GSA/SEWP V**

| Win 10 Home* | Standard | Messenger Type Bag | Standard | 30 Days No Dead Pixel | $45.00 |
| Win 10 Pro* | $50.00 | Backpack style | $30.00 | Screen Calibration (OS Req) | $45.00 |
| Win 10 USB Recovery | $30.00 | Rolling Style | $79.00 | 90 Days no dead pixel | $85.00 |

**Power Accessories - Can be ordered as spare parts or with a system**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>GSA/SEWP</th>
<th>RETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACA-9176</td>
<td>NP9176 330W AC ADAPTER WITH POWER CORD</td>
<td>$155.00</td>
<td>$195.00</td>
</tr>
<tr>
<td>BAT-9176</td>
<td>NP9176 SMART Lithium-Ion BATTERY PACK (8 CELLS 82 WH)</td>
<td>$129.00</td>
<td>$175.00</td>
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</tbody>
</table>

**ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE**
ACE MUSTANG W650R DETAILED SPECIFICATIONS

**Special Feature(s):** World's first 15.6-inch Coffee Lake LGA1151 CPU- and MXM 3.1 GPU-upgradeable laptop based on Intel Z370 Chipset

**Main Chipset:** Intel Z370 (Coffee Lake)
Socket LGA 1151
Coffee Lake-S CPUs
up to i9-9900K / 8700K

**Video / GPU:**
- Modular MXM 3.1: 100x124nm; up to 190W
- NVIDIA GeForce: GTX 1080, 1070, 1060
- NVIDIA GeForce: RTX 2080, 2070, 2060

**Built-in PC Camera:** Built-in 2M FHD

**LCD Size:**
15.6in / 39.6cm

**LCD Specifications:**
- FHD (1920x1080); 60Hz/120Hz/144Hz
- UHD 4K (3840x2160); 60Hz
- up to 4 active displays; up to 4K @ 60Hz
- G-Sync optional

**Memory:**
- Four 260-pin 1.2V SODIMM sockets;
- DDR4-2133/2400/2666/3000; up to 128GB; non-ECC

**Total Storage:**
- up to 4 physical drives:
  - 2x M.2 2280 SSD PCIe 2x4 NVMe or SATA
  - 2x 2.5" 9.5mm/7mm HDD/SSD/SHDD
  - RAID 0/1
- supports Intel Optane technology

**Optical Drive:**
External; USB based DVD-RW or Blu Ray-RW

**Card Reader:**
6-in-1 Push-Push Card Reader
MMC/RSMMC SD/mini SD/SDHC/SDXC
UHS-II

**Audio Architecture:**
- High Definition Audio; Realtek ALC892
- S/PDIF Digital Output
- Built-in microphone
- Built in two 2W speakers
- 7.1CH output (headphone, mic, line-in and S/PDIF)
- ESS Sabre ES9018K2M HiFi Audio DAC (headphone)
- Sound Blaster X Pro-Gaming 360°

**LAN/WLAN/Bluetooth:**
- 1Gb Ethernet LAN on-board; Killer E2500
- WLAN / Bluetooth; M.2 2230 slot supports 1Gbit WLAN
- prewired for 3G/4G/LTE (built-in antenna and SIM socket)

**Security:**
- Kensington Lock
- Fingerprint
- TPM 2.0 on-board (Infineon SLB9665-TCG)

**Internal cards / # of slots/Type:**
- Four M.2 slots
  - 1st: WLAN M.2 2230 Card with PCIe x2
  - 2nd for SSD M.2 2280 Card with SATA / PCIe x2x4 NVMe / Optane
  - 3rd for SSD M.2 2280 Card with SATA / PCIe x2x4 NVMe
  - 4th M.2 3042 for LTE or UMTS/HSPA

**I/O Ports:**
- 1 x Thunderbolt3 (USB 3.1C)
- 1 x USB 3.1C
- 3 x USB 3.1 (1x powered, AC/DC)
- 1 x USB 2.0
- 2 x mini DisplayPort 1.3
- 1 x HDMI 2.0 output
- 1 x 2-in-1 Audio Jack (Headphone / S/PDIF)
- 1 x Microphone-in
- 1 x Line-out
- 1 x Line-In
- 1 x RJ-45 LAN
- 1 x DC-in

**Internal Keyboard:**
- Backlit (7-colours) full size keyboard with numeric pad
- TouchPad with multi-gesture and scrolling
- W/A/S/D Gaming key

**AC Adapter:**
330W 100-240V 50-60Hz Auto-switching

**Battery:**
8cells Smart Li-Ion; 82WH
- up to 130 minutes

**Weight:**
- 3.4kg / 7.48 lbs

**Dimensions Wx Dx H:**
- 386x262x38mm; 15.44x10.48x1.52-inch
- 547x112x319mm / 21.88x4.48x12.76 inch

**Thickness:**
- 1.52in / 38mm
- 5.48kg / 12lbs

**Shipping / Packaging L xW x H / N.W. / G.W.:**