| Cores | CPU | Year |
|---|---|---|
| Single | PIII-M Tualatin | 2001 |
| | P4-M Northwood | 2002 |
| | P-M Banias | 2003 |
| | P-M Dolthan | 2005 |
| Dual | C2D Yonah/ | 2006 |
| | C2D/E Mero | 2007 |
| | C2D Merom | 2008 |
| | C2D Penryn | 2009 |
| Full DC | 1st Gen | 2010 |
| | 2nd Gen | 2011 |
| | 3rd Gen | 2012 |
| ULV DC | | |
| | 4th Gen | 2013 |
| | | 2014 |
| | 5th Gen | 2015 |
| | 6th Gen | 2016 |
| | | 2017 |
| | 7th Gen | |
| ULV 2/4 | 7/8th Gen | 2018 |
| ULV QC | 9th Gen | 2019 |
| | Ryzen 3K | |
| ULV 4/6 | 10th Gen | 2020 |
| ULV 6/8 | Ryzen 4K | |
| ULV QC | 11th Gen | 2021 |
| ULV 4/6/8 | Ryzen 5K | |

**14" Business Ultrabook**

| | Model | Low | Mid | High |
|---|---|---|---|---|
| | T400s | 50 | 75 | 100 |
| | T410s | 70 | 90 | 120 |
| | T420s | 80 | 115 | 170 |
| | T430s | 85 | 125 | 180 |
| | T430u | 70 | 130 | 150 |
| | T431s | 100 | 130 | 165 |
| | T440s | **125** | 160 | 195 |
| | | | | |
| | T450s | 150 | 185 | 240 |
| | T460s | 170 | 210 | 280 |
| | T470s Sky | 195 | 260 | 315 |
| | T470s Kaby | 210 | 300 | 400 |
| | T480s | 330 | 445 | 560 |
| | T490s | 430 | 640 | 850 |
| | T495s | 450 | 525 | 670 |
| | T14s Intel G1 | 550 | 750 | 1040 |
| | T14s AMD G1 | 700 | 850 | 1000 |
| | T14s G2 Intel | 850 | 1080 | 1300 |
| | T14s G2 Ryzen | 950 | 1300 | 1400 |

**13" Executive Slim Ultraportable**

| | | | | | |
|---|---|---|---|---|---|
| ULV C2D | X300 | 50 | 70 | 90 | 90 |
| | X301 | 50 | 85 | 100 | 100 |
| Full DC | X1 | 60 | 85 | 125 | 125 |
| ULV DC | X1 Carbon | 90 | 140 | 200 | 200 |

**14" Flagship Ultrabook**

| | | | | | |
|---|---|---|---|---|---|
| | X1C2 | 100 | 145 | 225 | 225 |
| | X1C3 | 160 | 215 | 300 | 300 |
| | X1C4 | 170 | 245 | 380 | 380 |
| | X1C5 'Kaby' | 320 | 420 | 480 | 480 |
| ULV 2/4 | X1C6 | 380 | 550 | 680 | 680 |
| ULV QC | X1C7 Kaby R | 420 | **696** | 950 | 950 |
| ULV 4/6 | X1C7 IceLake | 630 | **800** | 1000 | 1000 |
| ULV 4/6 | X1C8 | 800 | 1070 | 1350 | 1350 |
| ULV QC | X1C9 | 1040 | 1520 | 1844 | 1844 |
| | X1 Nano | 975 | 1150 | 1350 | 1350 |

**ThinkPad Price Guide, T14s & X1 Carbons**

**Guide research Jan-Mar 2022, Infographic on April 2022...**

Prices all are in $USD with shipping included

mid price equals to about low in EU/MX, High is low/mid to Straya

Green text have links! Minus the LCD chart

This guide is pre T14s Gen 3!!

**Slate Tablet (keyboard optional)**

| | | | | | |
|---|---|---|---|---|---|
| Helix | 100 | **140** | 200 | | |
| Helix 2 | 115 | 145 | 180 | | |
| X1 Tablet | 210 | 240 | 290 | X1 Yoga | 230 | 245 | 300 |
| X1T2 | 240 | 300 | 350 | X1Y2 | 255 | 370 | 460 |
| X1T3 | 460 | 530 | 700 | X1Y3 | 365 | 500 | 610 |
| | | | | X1Y4 Kaby | 505 | 650 | 805 |
| | | | | X1Y4 Ice | 750 | 950 | 1150 |
| | | | | X1Y5 | 710 | 850 | 1171 |
| X1Z9 | 800 | 1180 | 1120 | X1 Yoga 6 | 910 | 1440 | 2050 |
| | | | | X1 Yoga | 915 | 1120 | 1344 |

**Tablet Convertible**

# Thinkpad guides at https://dankpads.com/tpg

T460s & later have FHD IPS & NVMe 3.0 x4 as standard.

dGPU are optional from T410s to T460s, iGPU only from T470s & onward

2 RAM slots T400s to T430u, 1 slot - T431s to T480s, Soldered from T490s & onward

T410a = 1st gen, T450s = 3rd gen... T470s or T480s can have two diff gen CPUs

T420s & T430s can get FHD, WQHD upgrades depeding on the mod chip

T4xxs mobo & most parts aren't compatible w/ regular T Series

Yes you may be able to swap RAM/HDD/LCDs & maybe batteries but thats about it

X1C9 goes back to 16:10 display, I Think T14s Gen 3 will be that way too

X1C3 is NVMe 2x4, X1C4 3x4 onward until X1C9 4x4

X300, X301 2 RAM slots, X1 is 1 slot, X1C & onward all soldered

X1C1 = 3rd Gen, X1C3 = 5th Gen, X1C5, X1C6, X1C7 can have previous Gen

X1 Yoga 1 = 6th Gen, blah blah, but X1Y4 has 8th & 10th gen

All X1 mobo's are their own, maybe X1E can be swapped to P1

IMO the Helix was a dissapointment for me, it's pretty slow for Krita & Lightroom

T480s have failing USB-C charging ports... firmware may/not fix them, beware

T431s & X1C can get their bios lock removed if dumped at badcaps forum

**15.6" Ultrabook Workstation**

| | | | | |
|---|---|---|---|---|
| Full 4/6 | X1E1 | 710 | 905 | 1010 |
| Full 4/6/8 | X1E2 | 920 | 1000 | 1350 |
| Full 4/6/8 | X1E3 | 1160 | 1560 | 1750 |
| Full 8 | X1E4 | 1700 | 2300 | 2800 |

| Decent Sellers | | sellers i like :) |
|---|---|---|
| electrocycle-llc | itproshop | greencitizen |
| electronicscafe | laptop-goods | epcsales |
| tvrsales2 | mclean-surplus | swingcomputers |
| vertexpc | | human-i-t |

Try not to buy a bios locked ThinkPad, you might not be able to boot USB

Goodwill stores can have one location dedicated for electronics & PCs

| | | | | |
|---|---|---|---|---|
| ARM 5C | X1 Fold | 935 | 1395 | 1822 |

| RAM Slots | Soldered Memory | Max RAM Upgrade | Type | Base Speed | Model |
|---|---|---|---|---|---|
| 2 | | 8GB | DDR2 | 667Mhz | X300 |
| 2 | | 8GB | DDR3 | 1066Mhz | T400s, X301 |
| 1 | 4GB | 12GB | DDR3L | 1600MHz | T431s, T440s, T450s |
| 2 | | 16GB | DDR3 | 1066Mhz | T410s |
| 2 | | 16GB | DDR3 | 1333Mhz | T420s |
| 2 | | 16GB | DDR3 | 1600Mhz | T430s, T430u |
| 1 | 4/8GB | 20/24GB | DDR4 | 2133Mhz | T460s, T470s, T480s |
| 2 | | 64GB | DDR4 | 2666Mhz | X1E1, X1E2 |
| 2 | | 64GB | DDR4 | 2933Mhz | X1E3 |
| 2 | | 64GB | DDR4 | 3200Mhz | X1E4 |
| 0 | 4/8GB | | DDR3L | 1333Mhz | X1C, Helix |
| 0 | 4/8GB | | DDR3L | 1600Mhz | X1C2 |
| 0 | 4/8GB | | LPDDR3 | 1600MHz | Helix 2 |
| 0 | 8GB | | LPDDR3x | 4266Mhz | X1 Fold |
| 0 | 4/8/16GB | | DDR3L | 1866Mhz | X1C3, X1C4, X1T, X1T2 |
| 0 | 8/16GB | | LPDDR3 | 1866Mhz | X1C5, X1C6, X1C6*, X1Y1, X1Y2 |
| 0 | 8/16GB | | LPDDR3 | 2133Mhz | X1C6*, X1C7, X1C8, X1T3, X1Y3, X1Y4, X1Y5 |
| 0 | 8/16GB | | LPDDR4x | 4266Mhz | X1 Titanium, X1 Nano |
| 0 | 8/16GB | | DDR4 | 2400Mhz | T495s, |
| 0 | 8/16/32GB | | DDR4 | 2400Mhz | T490s |
| 0 | 8/16/32GB | | DDR4 | 2666Mhz | T14s1i |
| 0 | 8/16/32GB | | DDR4 | 3200Mhz | T14s1a |
| 0 | 8/16/32GB | | LPDDR4x | 4266Mhz | T14s2i, T14s2a, X1C9 |

Yeah you can buy faster RAM & it can work, this is just base memory speed from the factory

I think T470s & later ThinkPads have a RAM testing feature built into the bios

If the laptop turns on, most likely RAM is fine

Looking for specs? https://support.lenovo.com/us/en/partslookup

First type in the MTM (20xx), then when the page loads, enter the serial number

You should be able to see how the machine was configured.

| Screen Res | Glossy | Matte | Touch |
|---|---|---|---|
| 16:10 TN WXGA | X1 | | |
| 16:9 HD | | T430s, T430u | |
| WXGA+ | | T400s, T410s, X300, X301 | T410s |
| HD+ | | T420s to T450s, X1C, X1C2 | X1C |
| FHD | | X1C3 | |
| 16:9 IPS FHD | | T440s to T14s2, X1C4 to X1C7, X1E to X1E3 | T440s to T14s2, X1C3?, X1C6, X1C8, X1Y1 to X1Y3, X1Y5 |
| | | X1C8`, X1E2*, X1E3* | Helix, X1Y2, |
| Privacy Guard | | T480s to T495s, T14s1a*, X1C7` | T14s1i*, T14s2i, T14s2a*, X1C8, X1Y4`, X1Y5 |
| Low Power | | T490s*, T495s to T14s2, X1C7 | X1Y4` |
| 3:2 FHD+ | | | X1T1, X1T2, X12` |
| 16:10 WUXGA | | | |
| + LP & BLF | | X1C9` | X1C9`, X1Y6`, X1Y6` |
| + LP & Priv | | | X1C9*, X1Y6* |
| WQHD | | T460s to T480s, X1C2 to X1C8 | T460s?, X1C2?, X1C3, X1Y1 to X1Y4, X1Y3*, X1Y5*, T490s |
| WQHD OLED | | | X1Y1!, X1Y2` |
| 2K LP | X1N1 | | X1N1 |
| 4:3 QXGA OLED | X1F1 | | |
| WQXGA | | X1E4` | |
| QHD+ | | | X1T1i`, X1T3 |
| 4K/UHD IPS | X1E1, X1C7`, X1C8* | | X1Y4, X1Y5, X1E1 to X1E3 |
| 100% DCI-P3 | T14s1i | | |
| 100% Adobe | T14s2i, T14s2a | | |
| | X1E1, X1C7`, X1C8* | | |
| UHD OLED 100% DCI-P3 | | | X1E2, X1E3 |
| WQUXGA | | | |
| + BLF X1E4* | | | X1C9*, X1E4* |
| + BLF & LP | | | X1C9` |

| | Big Barrel | 4 Pin | Rectangle | IBM Coax | USB-C |
|---|---|---|---|---|---|
| 45W | | | T440s to T470s | | T470s to T14s2, X1N1 |
| | | | X1C2 to X1C4 | | X1C5 to X1C9, X1Y2 to X1Y6 |
| | | | X1Y1 | | X1T2, X1T3, X12D |
| 65W | T400s to T430s, T430u | | T431s to T470s | | T470s to T14s2 |
| | X300, X301, X1 | | X1C2 to X1C4 | | X1C5 to X1C9, X1Y2 to X1Y6 |
| | | | X1Y1, Helix | | X1T1i, X1F1, X1T1, X1T2, X12D |
| 90W | T400s to T430s, T430u, X1C | | T431s | | |
| 120W | | | | | |
| 135W | | | X1E1 to X1E3, X1E4 | | |
| 170W | | | X1E2, X1E3, X1E4 | | |
| 230W | | | X1E4 | | |

| Form | Type | Primary/Single Drive | Dual Drives | Secondary | WWAN |
|---|---|---|---|---|---|
| 9.5mm | PATA | | | | |
| 9.5mm | SATA | | | | |
| 9.5mm | SATA2 | | | | |
| 5mm? | uSATA2 | T400s, T410s, X300, X301 | | | |
| 9.5mm | SATA3 | T430u, T431s to T450s | | | |
| 7mm | SATA3 | T420s, T430s | | | |
| 3052 | mSATA | Helix | | T420s, T430s | |
| 2242 | mSATA | | | T430u, T431s, T440s? | |
| 2260? | 20+6 SATA | X1C1 | | | |
| 7mm | SATAe | | | | |
| 2242 | PCIe 2x4 | | | T14s2a, X1E4 (iGPU) | T480s, T495s, T14s1a, X1C6, X1C7 |
| 2242 | PCIe 3x4 | X1N1, X1t1i, X1F1, X12D | | | |
| 2280 | PCIe 2x4 | X1C3, Helix 2? | | Primary drive is correct, but secondary can be hit or miss | |
| 2280 | PCIe 3x4 | X1C4 to X1C8, T460s to T14s1 | X1E1 to X1E3 | * means there are if's and but's, so check the guide on the website :) | |
| 2280 | PCIe 4x4 | X1C9, X1E4, T14s2 | | | |

* symbol designates if its at least a 500 nit display & at/above 1000:1 contrast ratio

` symbol designates if its 400nits and at least 800:1 contrast ratio

! symbol designates its 300 nits luminance & fucking 2,000,000:1 contrast ratio, yes its fucking way better than X1Y2's 40,000:1

Swap the entire lid assembly for an upgrade, otherwise you'll need to get an LCD, cable, Lid, & bezel for it to fit properly