How to Build a Desktop PC (Step by Step for Beginners)

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A fully illustrated 37-step guide to building a desktop PC from parts: choose compatible components, assemble the board, wire the case, and boot into a clean install.

Phase 1 — Plan a Compatible Parts List

1. **Write down what the PC is for**
   Write down what the PC is for.
2. **Pick the CPU socket first**
   Pick the CPU socket first.
3. **Match the motherboard chipset and form factor**
   Match the motherboard chipset and form factor.
4. **Choose RAM the board actually supports**
   Choose RAM the board actually supports.
5. **Size the power supply with headroom**
   Size the power supply with headroom.
6. **Verify the case clears the GPU and cooler**
   Verify the case clears the GPU and cooler.
7. **Lay out every part and screw**
   Lay out every part and screw.
8. **Set up an anti-static workspace**
   Set up an anti-static workspace.
9. **Read both the board and case manuals**
   Read both the board and case manuals.
10. **Prepare a clean Philips screwdriver**
    Prepare a clean Philips screwdriver.

Phase 2 — Assemble the Motherboard

11. **Place the board on its box**
    Place the board on its box.
12. **Seat the CPU in the socket**
    Seat the CPU in the socket.
13. **Lock the socket lever**
    Lock the socket lever.
14. **Install the cooler backplate and bracket**
    Install the cooler backplate and bracket.
15. **Push both RAM sticks into their slots**
    Push both RAM sticks into their slots.

16. **Mount the M.2 drive**

    Mount the M.2 drive.

17. **Plug in the 24-pin and CPU power**

    Plug in the 24-pin and CPU power.

18. **Attach the cooler and fan cable**

    Attach the cooler and fan cable.

19. **Do a bare-minimum boot test**

    Do a bare-minimum boot test.

Phase 3 — Fit Everything Into the Case

20. **Install the case standoffs**

    Install the case standoffs.

21. **Fit the rear I/O shield**

    Fit the rear I/O shield.

22. **Lower the board onto the standoffs**

    Lower the board onto the standoffs.

23. **Screw the board down in a cross pattern**

    Screw the board down in a cross pattern.

24. **Slide in any 2.5-inch drives**

    Slide in any 2.5-inch drives.

25. **Seat the graphics card**

    Seat the graphics card.

26. **Install the power supply**

    Install the power supply.

27. **Plug the 24-pin and 8-pin back in**

    Plug the 24-pin and 8-pin back in.

28. **Connect the GPU power leads**

    Connect the GPU power leads.

Phase 4 — Wire, Close and Boot

29. **Plug in the case fan and RGB headers**

    Plug in the case fan and RGB headers.

30. **Attach the front-panel header as a block**

    Attach the front-panel header as a block.

31. **Connect USB and audio front ports**

    Connect USB and audio front ports.

32. **Tidy cables behind the tray**

    Tidy cables behind the tray.

33. **Refit the side panel and connect peripherals**

    Refit the side panel and connect peripherals.

34. Power on and watch the fans

Power on and watch the fans.

35. Enter the BIOS and check temperatures

Enter the BIOS and check temperatures.

36. Install the operating system from USB

Install the operating system from USB.

37. Update drivers and run a stress test

Update drivers and run a stress test.

Sources

1. Microsoft Support
   https://support.microsoft.com/
2. Microsoft Learn
   https://learn.microsoft.com/
3. Mozilla — web and browser resources
   https://www.mozilla.org/
4. Apple Support
   https://support.apple.com/

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