Notebook Computer Buying Guide

What is a Notebook or Laptop Computer?

Notebook computers (also called laptop computers) are smart mobile personal computer systems usually weighing between 3 and 7lbs. Featuring integrated LCD screens and keyboards, notebook computers offer the same functionality as desktop computers, but are designed to be extremely portable and can be used almost everywhere you go to help you maximize your productivity and active lifestyle.

In the past, mainstream notebook computers were anywhere between 50% and 100% more expensive than their mainstream desktop counterparts. Currently, that difference has shrunk to between 20% and 40%. The lower pricing of contemporary notebooks has fueled the category's explosion in popularity. Despite its more affordable pricing, few of us have the luxury of making purchasing decisions without weighing our options thoroughly. That's why it's important for a potential buyer to know whether a notebook makes sense for his/her own set of computing requirements. In the next section we find out what value the notebook computer can bring to the user.

Features of the Notebook Computer

Mobility

The most obvious advantage of the notebook computer is its mobility. Currently, mainstream notebooks average out to be approximately A4 in size and weigh between 4 and 7lbs. A desktop computer – peripherals included – requires much more space and often weighs more than 20lbs. Products belonging to the Ultra Thin-and-Light category of notebooks weigh approximately 2lbs and are only about B5 in size (or less) and will fit into just about any briefcase.

Performance

In the past, notebook computing was synonymous with high cost and low performance. Thanks to never-ending technological development, contemporary notebook computers enjoy performance on par with their mainstream desktop counterparts. This allows the notebook user to not only complete their work at maximum efficiency, but to enjoy the many other entertainment and multimedia capabilities of the modern computer without compromise.

Entertainment

That's right - due to the high levels of technology in modern processors, video cards and other components, the notebook has all the built-in multimedia capabilities to become a true entertainment platform that will easily tackle music, videos, DVD movies and demanding 3D PC games.

Usable Battery Life

Low voltage processors, video cards and components all contribute to notebook computers that run cool and offer usable amounts of battery life. Currently, most notebook computers will run for 4-5 hours on a single charge, which is an achievement and standard unimaginable in just the recent past.

Wireless Connectivity

Wireless everything is all the rage these days. Today's notebook computers feature built-in Wireless LAN adapters that can allow users to conveniently connect to the Internet where a Wireless signal is present.

What type of notebook computer fits me best?

Notebook computers come in all shapes and sizes (and weights) to suit a variety of user requirements. Notebook computers can basically be classified as Ultraportable, Thin-and-Light, Mainstream or Desktop Replacement. Each has its own pros and cons as mentioned below:

Ultraportable

Ultraportable notebook computers weigh the least, are very small in size and are extremely slim for maximum mobility. Typically weighing below 3 pounds, most come with a screen size (diagonal) of 12 inch or less and are approximately half an inch thick. The drawback is that this type of notebook computer features relatively low system performance and a small sized keyboard.

Thin-and-Light

Thin-and-Lights mix portability with performance and features. Weighing about 4 to 5 pounds, a screen size of 12 to 14 inch is commonplace. They are typically 1 inch thick and feature a mid to full-size keyboard for comfortable typing. Many also feature built-in optical drives (CD/DVD player or burner).

Mainstream (Midsize)

Mainstream notebook computers are slightly larger than thin-and-lights and weigh about 5 to 7 pounds with a 14 or 15 inch screen. On average, the mainstream notebook will provide performance and features on par with a thin-and-light notebook, but at a price that will be slightly lower.

Desktop Replacement

Desktop Replacements are the heaviest of the bunch and have the largest footprint and physical dimensions of the lot. It can be a bit tough to carry around. Expect at least 7 pounds and a 15 inch screen size and above. Some models are designed with performance equaling performance desktop computers.

Summary Chart

Notebook Type	Bulk	Mass	Screen size
Ultraportable	Very small and slim	below 3lbs	under 12 inch
Thin-and-Light	Thin	about 4-5lbs	12 to 14 inch
Mainstream	A little large	about 5-7lbs	14 to 15 inch
Desktop Replacement	Large footprint and thick	above 7lbs	above 15 inch

What specs and details require my attention?

Notebook specs can vary quite a bit based on the type of notebook computer you are selecting. There are compromises in specification, such as a slower processor and memory used to allow for decent battery life when mated to a lower capacity (i.e. smaller) battery. For this reason, it makes a lot of sense to understand your choice and whether it is able to serve your requirements before making the final decision.

Here are specs and components that determine a notebook's performance and are often offered as configurable options by the manufacturer:

CPU/Processor

We know that the CPU (Central Processing Unit) is essentially the brain of the computer and the largest single determinant of system performance. In a notebook computer, it is very much the same. Where a notebook CPU can differ from a desktop CPU is in its advanced power management features that are used to help extend battery life. A long battery life means you can use your computer without the help of an AC adapter for longer periods of time when outside or on travel where a power outlet isn't available.

The following chart covers the most popular notebook CPUs on offer today:

Characteristics	Processor Series
High performance and long battery life	AMD Turion 64
	Intel Core Duo
	Intel Core Solo
	Intel Pentium M
Ultra long battery life	LV/ULV Intel Pentium M
	ULV Intel Celeron M
	Intel Core Duo Low Voltage
High performance	Mobile AMD Athlon 64
	Mobile Intel Pentium 4(HT)
Budget	Intel Celeron M
	Mobile AMD Sempron

Note: LV = Low Voltage processor, ULV = Ultra Low Voltage processor

Memory

Memory can be considered as the storage area used to store application data for the CPU.

To allow your notebook computer to run smoothly at least 256MB memory is needed by today's applications. If you plan on running a number of applications simultaneously, the general rule thumb where memory capacity is concerned is: the more the better.

There are two types of memory in application in notebook computers: DDR and DDR2. Generally speaking, DDR2 has the advantages of reduced power consumption and a higher performance potential than DDR. Your choice of memory type is restricted according to the notebook computer you choose.

Hard drive

The hard drive stores almost all the data required by the computer system including the operating system, applications and user data. The desktop computer typically uses 3.5 inch hard drives, while notebook computers use smaller 2.5 inch drives. 2.5 inch hard drives employ different rotational speeds, which directly affect performance. There are 3 speeds in use currently: 4200rpm, 5400rpm, and 7200rpm. Generally speaking, higher rotational speeds equal faster performance.

Notebook computers are usually configured with 30 or 40GB hard drives, which should be sufficient for the average user. Users who store more documents and movie or music files may require higher capacity hard drives of about 80GB or greater.

Display

While desktop computer users can choose between using a CRT (cathode-ray tube) or LCD (liquid-crystal display) monitor, notebook computer enjoy built-in LCD displays by default. Larger-size displays can provide a larger viewing area and higher resolutions; however, screen size is limited according to notebook type as mentioned above.

The most popular notebook screen resolution is currently 1,024 x 768. However, widescreen notebook computers are gaining in popularity as the benefits of the widescreen format include increased onscreen content at an enhanced in certain applications (such as watching movies!).

Graphics (Video Card)

Notebook video cards are divided into discrete and integrated versions. If you use the notebook primarily for document processing, web surfing, chatting, listening to music or watching movies, and even some light gaming, an integrated video card is usually more than good enough. For 3D games or multimedia processing, a discrete video card is usually the better choice

Of the four notebook types, the Ultraportables typically feature integrated video cards, while most thin-and-lights and mainstream notebook computers use either integrated or mid-range discrete video cards. Most desktop replacement notebooks are installed with mid range or high-end discrete video cards.

Integrated video cards feature GPUs integrated directly onto the chipset and require system memory for use as video memory. Discrete video cards feature a discrete GPU and a local video memory to free up system memory.

Optical drive

Almost all notebook computers excluding Ultraportables feature internal optical drives. Ultraportable notebook users can make use of an external optical drive.

DVD-ROM or DVD/CD-RW combo drives are currently very popular. If you only read data discs and watch DVD movies, a DVD-ROM drive is sufficient. A DVD/CD-RW combo drive can do all of the above and has the added ability to write/burn CD-R/RW discs (700MB max capacity). If, however, you require more data storage or wish to burn your own DVD movies, a DVD burner is recommended (single-layer DVDs provide a capacity of 4.3GB).

Networking
Modem and Ethernet ports are standard configuration for contemporary notebook computers. Wireless networking, however, will require that you choose a notebook with built-in wireless network adapter.

There are three wireless networking specifications currently in use they are 802.11a, 802.11b and 802.11g. 802.11a and g formats support up to 54Mbps transfer speeds and the 802.11b format up to 11Mbps transfer speed. Please make sure to select the proper format based on your actual wireless networking infrastructure.

If you do not wish to purchase a notebook with a built-in wireless network adapter, you also have the option of purchasing a PC Card-style (PCMCIA) wireless network adapter to achieve a wireless connection.

Other tips
If you have a lot of USB devices, we recommend a notebook that has at least 2 USB ports. Otherwise, you can opt for a USB hub to increase the number of USB ports available.

To connect your camcorder to your notebook computer, make sure an IEEE 1394 (Firewire) port is available. If not, you have the option of purchasing an IEEE 1394 adapter card (PC Card).

We also recommend a notebook carrying case for your notebook. A notebook carrying case is designed with reinforced corners for extra protection. It also comes with a lot of extra compartments and space for your accessories (such as power adapter, extra battery, PC Cards, external drive, etc) too!

Our Recommendations

Each user is special and has his or her unique set of requirements. This makes choosing the right notebook a complicated task. Here we narrow down the choices by user type to help you make the best choice possible:

Business and Professional users

Your notebook computer should have enough power to complete all but the most specialized type of tasks (e.g. video editing, graphics design). Your notebook computer should also go anywhere you go, be it office meetings in the room next door or field presentations.

Our recommendation:
Type: Thin-and-Light
CPU: Intel Pentium M, Intel Core Duo, Intel Core Solo, or AMD Turion 64
Memory: 512MB or above
Hard drive: 40 to 80GB
Display: 14.1-inch
Graphics: Integrated or mid range discrete video card
Optical Drive: DVD/CD-RW Combo (DVD burner recommended for data storage)
Networking: Modem, Ethernet port and Wireless network card

For Frequent Travelers

The best bet for frequent travelers is to go with something that provides maximum mobility. That means a small size, low mass and a long battery life. Outright performance becomes less important when the priority is to travel with minimum weight. Your notebook should also help you complete document processing, spreadsheets and surf the web without any hiccups.

Our recommendation:
Type: Ultraportable
CPU: LV/ULV Intel Pentium M, Pentium M, ULV Celeron M, Intel Core Duo Low Voltage
Memory: 512MB or above
Hard drive: 40GB
Display: 12.1-inch
Graphics: Integrated video card
Optical Drive: External optical drive or none
Networking: Modem, Ethernet port and Wireless network card
Others: Extra battery recommended

For Students and Budget Users

A student's life is rarely the easiest so an affordable notebook computer that is great for document processing and small group presentations is our recommendation. That same notebook should also double up as a source of after-hours entertainment and relaxation with light gaming, music

and DVD video capabilities all rolled into one.

Our recommendation:
Type: Mainstream
CPU: Celeron M, Mobile Sempron
Memory: 256MB or above
Hard drive: 40 to 60GB
Display: 14 to 15 inch
Graphics: Integrated video card
Optical Drive: DVD-ROM or DVD/CD-RW Combo
Networking: Modem, Ethernet port and Wireless network card

For Home users
The notebook computer for the home user should be the ultimate multitasker – it'll help you surf internet and keep you entertained with music, DVD videos, and games, as well as handle any office-type work; but at the added benefit of being able to operate in any part of the home - be it the bedroom, terrace, living room or even kitchen thanks to its inherent mobility.

Our recommendation:
Type: Mainstream or Entry-level Desktop Replacement
CPU: Celeron M or Mobile AMD Sempron
Memory: 256MB or above
Hard drive: 40 to 60GB
Display: 14 to 15 inch (Widescreen recommended)
Graphics: Integrated video card
Optical Drive: DVD/CD-RW combo
Networking: Modem, Ethernet port and Wireless network card

For Gamers and Multimedia Experts
What helps the gamer's notebook stand out from the rest of the crowd is mega graphics capability, which comes from having a powerful processor, lots of memory, a mighty graphics card and a fast hard drive on board. Of course, it being a notebook means you can tote it to LANparties and back without all the back-breaking physical labor associated with a desktop.

Our recommendation:
Type: Desktop Replacement
CPU: Intel Pentium M, Intel Core Duo, or Mobile Intel Pentium 4
Memory: 512MB or above (1GB recommendation)
Hard drive: 80GB or above
Display: 15-inch or above (Widescreen recommended)
Graphics: High-end discrete video card with high-capacity video memory
Optical Drive: DVD burner
Networking: Modem, Ethernet port and Wireless network card