

Your computer: Polish PC

Do you feel your PC is becoming an 'antique'? Here are ways to get your PC up and running faster, store more and more ... for entertainment!



Do you feel your PC is becoming an 'antique'? Here are ways to get your PC up and running faster, store more and more . for entertainment!

Want to take advantage of new PC technologies up to 2 years old without having to buy a new PC? This sounds unbelievable. Don't be discouraged, if you upgrade, you can refurbish your old machine.

You may have heard about SATA hard drives for faster speeds than IDE drives. It is possible that your wireless network does not reach far enough and you are interested in other more powerful access points. Or maybe you want to play the latest games without being afraid of graphics capabilities.

Back to the problem, your not-so-resilient PC still has a lot of potential. You can add things below and add new technologies quite easily. The most important thing is to determine what you want to do with your computer,

then choose the right thing to upgrade.

The article offers four major enhancements to a PC: increased capabilities, flexibility and speed for data storage; replace components that slow down the system speed; add multimedia functions like TV program recording; PC security improvements with hardware to protect data.

Upgrade storage capacity

Remember the days when you wondered what to do to fill a 20GB hard drive? With increasing storage needs for storing image files, music, movies and other large files, the capacity of the hard drive must also increase storage capacity. As the file size increases, the hard drive also has to push more data onto the PC faster. While simply buying and installing a new hard drive that can meet the storage needs, how do you ensure the data is safe when someday the drive is broken? You can back up to an external hard drive, or you can use RAID technology to ensure the work is still smooth if a hard drive fails.

If you want to improve storage speed, you can consider using new technology such as Serial ATA hard drive (SATA) for PC. You can also use RAID configuration to speed up data transfer speeds.

Serial ATA replaces the standard Parallel ATA connection (also called IDE) between the motherboard and the hard drive, for faster speeds. New SATA hard drives transfer data at 150mbps, nearly 50% faster than today's IDE hard drives. SATA is not only faster than an IDE but also easier to set up: SATA cables are more compact and you don't have to deal with jumpers.

RAID Redundant Array of Independent Disks helps speed up hard drives, twice as much as standard IDE's. If you use SATA drives in RAID configuration, the speed will be higher. But RAID configuration is difficult to set up and expensive. For example, unless your motherboard supports RAID, you'll need to have a special adapter card plus at least 2 hard drives (see picture).

Convert to SATA

If your motherboard already has SATA interface (find a pair of thin black connectors on the board, you can use additional SATA drives. Otherwise, you must have an additional card attached.

To add or replace IDE drives with SATA drives, you need to prepare something. First, you must install the SATA driver so that Windows can identify the newly connected hard drive. If you want to replace the IDE drive, you must also copy (or install) Windows and the program to SATA drive. If you just want to use the SATA drive to store more, simply plug the power into the hard drive, plug in the SATA drive and then reboot the system, use the Windows Disk Manager to partition and format the drive. (You can see detailed instructions in the article 'Hard disk acceleration by Serial ATA'; ID: A0309_137).

Most come with a hard drive with data backup utility, if you don't have Symantec's Norton Ghost 9 also has a backup feature (www.symantecstore.com).

Upgrade RAID

If you want to speed up hard drive speeds, RAID is the solution you need. The decision to use RAID depends on the reliability and speed, budget and ability you need to solve the confusion during the setup process.

The most feasible applications of RAID are: replicate the content of one hard drive to another (mirroring),

providing you with a working copy even if there is a 'broken' hard drive halfway through. ; split data into multiple hard drives (striping) to increase read and write speed; and combine the above two configurations. (See section 'RAID configuration for speeding up and reducing hard drive errors').

Installing and configuring RAID and hard drives involves using setup software following a RAID controller card. We usually access RAID settings by pressing a key combination (this key combination is displayed when the system starts). Most RAID setup programs guide you through the configuration options; then they automatically set up the hard drive and controller card to support that configuration. Once setup is complete, you can install a new Windows OS on RAID drives, or you can partition and format these drives with Windows Disk Manager and use them for storage.

After installation, Windows sees your RAID configuration as any standard hard drive. Just like every hard drive, you should back up data regularly. RAID mirroring will not protect if you delete an important file, for example, because it performs deletion on both hard drives.

If you don't have enough funding for RAID but still want data to be stored in two places, consider software-based replication. MirrorFolder tool (price 40 USD; www.techsoftpl.com) of Techsoft is able to duplicate your data to store on any mapped drive, regardless of whether it is in your computer or on the storage drive. LAN network. MirrorFolder runs in the background, so you won't know when it works.

Use hard drive mounting box

If you have an old IDE hard drive, make use of it as a removable storage drive via USB (starting price of about 15 USD). Simply buy an external hard drive box via USB interface, attach the old hard drive to the box, plug in the power adapter and connect the USB cable to the PC and you have a portable storage device. The external box for this hard drive has two versions for 2.5-inch laptop hard drives and for 3.5-inch SATA drives. You can also find a box that uses a FireWire (IEEE 1394) connection.

Not everyone has the ability to create their own external hard drive, so some manufacturers make external hard drive kits for data backup. Many hard drives such as Maxtor's Shared Storage Drive 300GB (\$ 350; find.pcworld.com/48388) also have network connections, so you can use them as standalone file servers on the network.

But if you want to flexibly use a hard drive like a built-in drive or portable drive, then Addonics's Saturn Mobile Rack system (priced from \$ 40 to \$ 90 depends on the feature; find.pcworld.com/48389) allows you to Insert an IDE or SATA hard drive into a box that fits into the drive tray on the case. You can also remove the hard drive and take it here and there. This mobile box has both USB and FireWire communication (depending on the model).

Speed ??up the system

You can greatly speed up the system by upgrading 2 basic components: CPU and RAM. Regardless of whether your computer is a "crate" or an assembly device, it is usually possible to add more RAM. There are several motherboards that can run with new CPUs. But adding these components may make the system generate more heat, thus reducing the life of the computer. Adding one or two radiator fans helps the system avoid crashes and reduce the life of the machine.

Increase more RAM

In the upgrade type, adding RAM is the most expensive upgrade. Even today, some new PCs sell only 256MB of RAM, which is the minimum required by Windows XP OS.

If the system has too little RAM, Windows must rotate the program and data between RAM and the hard drive, which will reduce the speed. Adding more RAM will cut the need for Windows to rely on the hard drive, so everything will run faster and smoother.

Most experts recommend that, to run Windows XP well, the RAM must have at least 512MB, some suggest up to 1GB, 1.5GB or 2GB to solve the system's slow and memory-related problems. system. If you use PC primarily to run office applications, web and email, consider upgrading your RAM to 512MB. If you run multiple applications at the same time, often having to open a large database or spreadsheet, or edit audio and video, then you should upgrade to gigabyte RAM, the new system will not be 'crawled'.

Some RAM modules are designed for high speed, with some additional features for users who need speed. Crucial's Ballistix Tracer RAM (\$ 125MB bar) uses LED rows on each bar to indicate the level of RAM activity at some point. The Corsair XMS Xpert RAM (a 1GB bar costs about \$ 185; there is a bright LED panel on each RAM bar that tells you the temperature and diagnoses the status of RAM.

Check your system for the type of RAM and the speed of RAM that you are using. You can add a DDR bar to the system running DDR memory, but DDR2 RAM must be running properly. If you buy RAM with a higher speed than old RAM, it may not be much effective (see section 'New RAM, high speed may be cheaper' in the article).

Sisoft's free Sandra 2005 diagnostic utility (www.pcworld.com.vn; ID: 47836) can tell you what type of RAM the computer is currently running (in the Mainboard Information section, find Memory Modules information). Carrying the manual or one of the machines' RAMs to the store can help sellers choose the right type and amount of RAM for your device.

Another common rule for upgrading, but especially for RAM, is: choose names that have names. Poor quality RAM may cause your PC to be inactive or run easily. These 'no-name' RAM types are usually cheaper and sell with a short warranty period, sometimes only a few days. Some well-known brands of RAM: Corsair, Crucial, Micron, Wintec .

Can CPU upgrade?

Normally, if you want to upgrade your PC's processor, you need to buy a new motherboard (and also often have to buy new RAM). However, if you have used a 64-bit AMD processor, this is good news: AMD has dual CPUs, Athlon 64 X2 (from \$ 537 to \$ 1001; multicore.amd.com) can speed up the system. Athlon 64 system significantly without having to buy or install a new motherboard. X2 fits into the socket used for current Athlon 64 CPUs and also has the same power requirements. For more details, see the 'First 2-core lap', ID: A0507_22. You can also visit AMD's website to see how to install it. (<http://www.amd.com/us-en/Processors/TechnicalResources/>).

If you plan to upgrade this CPU, you will need to update the BIOS for the motherboard. If you know your motherboard brand, check the manufacturer's website to see if it supports the X2 processor. Otherwise, go to motherboards.org to identify your motherboard. On the manufacturer's website, find the BIOS version and perform an update to support the board for Athlon 64 X2.

You will also need to apply the BIOS patch before installing the CPU. Once you're sure the system can boot and

run with the new BIOS, shut down and replace the CPU (see step by step at find.pcworld.com/43512, remember to follow the manufacturer's instructions). Before turning on the device again, make sure to install the radiator completely.

Push USB to 2.0

USB 2.0 lets you transfer data to / from USB storage devices and download images from digital cameras faster. If your device has only USB 1.1, then you become an 'outdated'. Adding support for 2.0 interface is also simple, just buy an add-on card.

These cards range in price from about \$ 15 to \$ 60, depending on how many USB ports the card has (you can see the card types). Cards can be attached to standard PCI slots on the desktop, or laptop's CardBus / PC Card slot, for example, Belkin's CardBus USB 2.0 F5U22 (\$ 65, find.pcworld.com/48420).

USB 2.0 add-in card is quite easy to install: you turn off the computer, insert the card into the appropriate slot, turn on the power again and install the driver. Some types of PC Cards require direct connection to the power cord to work.

Speed ??up the network

Switching networks using gigabit wires, or transferring 802.11b or 802.11g wireless networks to MIMO or 'pre-N' networks (which is a 'roadway' version for the upcoming 802.11n standard) will help reduce neck congestion. bottle when you transfer data between PCs. Switching from 11b to 11g, MIMO or pre-N can let you transfer videos and music online without being jerky, or you can back up a PC over the wireless network. Most users will need to buy a new router, and can be a new network adapter for each PC on the network to benefit from the new wireless technology.

Currently with the top wireless network today is MIMO, although many other companies define MIMO to refer to other technologies such as wireless networking technology that uses multiple antennas to improve radio signal transmission. This technology will eventually give way when the next 802.11n wireless standard appeared in 2006. In theory, 802.11n standard will transfer data much faster than 802.11b and 802.11g.

In general, MIMO products can solve the 'dead spots' problem (unable to identify or connect wireless networks in coverage) and have farther coverage. But at short distances, you won't be able to see the improvement in transmission speed.

Cool the PC

If you are 'squeezing' the speed for a PC, you are also heating up the temperature in the chassis that could lead to instability. Every new component you install will add heat to your device, so most new graphics cards now come with cooling fans on board and require you to supply additional power. Hard drives, add-on cards and even RAM are radiating heat. And if there is no means to reduce heat, it may be difficult for these components to live.

Installing one or two fans is not a problem, most PC boxes have built-in fan mounts at the back (some cases are both on the top and sides). All you need is a fan, a few screws and a few minutes. Priced from 5 USD to 15 USD depending on the size, noise . of the fan, you can install the fan yourself easily. But before you buy the fan, you should carefully measure the size of the drum compartment and the case buttons of the case to buy the right type.

If the case is too tight, or the bin has no room to catch more fans, you might consider installing a fan somewhere

else. A slot fan (like the Spire Exhauster fan, can be attached to an empty slot and fits nicely between the cards. If you want to add wind in the case and have a 5.25-inch drum tray (optical drive slot), Bay Freezer (10-15 USD, find.pcworld.com/48414) will take the wind from the front of the case to give inside.

Upgrade professionals also like to use a device that controls fan rotation depending on the temperature inside the case. This makes the PC cooler and less noisy. To use fan control, you must add one or more thermal sensors in the case. Thermaltake's \$ 70 HardCano 13 fan controller can control up to 4 fans, telling you the speed at which each fan rotates on the LED screen. More useful, it also has several slots for reading some types of memory cards.

Water cooling is the way to achieve the least noise cooling level. The liquid cooling system pumps water through a special heat sink that you can mount on the CPU or other components inside the machine, which circulates to a pump outside the PC. However, the water cooling system is not cheap and easy to install. But if you really focus on keeping the system cool and smooth, this solution is worth considering.

Create your own entertainment center

Do you like watching movies, TV on PC? By combining appropriate hardware and software, you can turn your PC into a TV receiver, movie projector, and music player for the whole family.

Add TV card

The first step to creating your own entertainment center is to decide what you want. For most people, it is recording from TV shows, regardless of cable or satellite television. Firms like ATI, Hauppauge, NVIDIA and Pinnacle Systems have quite a few products that serve you: TV-attached cards, TV-tuned boxes via USB, graphics cards with built-in TV tuners. These products are always bundled with software to record TV (or sometimes from other sources, such as a dialer), plus instructions for you to tinker with yourself.

If you intend to upgrade your graphics card and want to add a TV card at the same time, ATI's All-In-Wonder card line is very suitable. All-In-Wonder X800XT (about \$ 500, find.pcworld.com/48423) incorporates high-end graphics cards and TV cards, FM tuners and all the software you need to schedule recording for TV or radio receiver, plus radio frequency remote control (RF) devices that work smoothly with those applications.

X800XT also has S-video and composite input / output for most video connections as well as DVI-I and VGA inputs for PC monitors. It has its own PVR software, plus Gemstar's Guide Plus program for scheduling and searching, DVD burning software to record recorded programs.

The remote control is easy to hold, especially you can switch channels, control the device from another room in the house. If you buy a TV card or a TV box from other companies but want to control radio waves (RF) just like All-In-Wonder, you can buy your own control device, called Remote Wonder (cost about \$ 40, find.pcworld.com/48425).

If you decide to add a TV card to your computer, you should also consider installing the cable, so make sure that you don't have to deal with it.

Upgrade graphics

If you want a better 'TV card', you can buy a new 'top' graphics card with the best display rate with the necessary frame rate per second for video and 3D games. New graphics cards can have features like video capture, TV, and

output ports for multiple monitors such as dual-DVI, DVD and VGA, or 2 VGA inputs.

Many new PCs have a new type of communication called PCI Express that previous computers didn't have. This is important because graphics card manufacturers only offer products that are either attached to the PCI Express slot or to the AGP slot only. You need to buy the type of card that your motherboard supports, you cannot swap between these two interfaces.

Installing a new graphics card is also easy: turn off the computer, open the case, set the correct slot (only 1 slot, usually above the white PCI slots), insert a new card, and tighten the card with the screws or with pre-designed seats. Then close the case, connect the monitor cord to the new card and restart the computer. Now you are ready (for more details on installing graphics cards, go to www.pcworld.com/48428).

Once you have finished installing and starting the PC, Windows will recognize the new card and try to download the driver. You can use the driver contained on the CD that came with the card, but you should go to the manufacturer's website to download the latest driver that is usually newer than the driver on the CD.

Once the installation is complete, restart the computer, then simply adjust the screen resolution and screen refresh rate accordingly (right-click the desktop, select Properties, and select Settings to change the setting.). Sure you will see the screen sharp and responsive faster. To try it fully, you should check out the video in full screen or try playing a game.

Record and share

Once you record and manage entertainment sources on your PC, you may want to show them in the living room. Pinnacle Systems' ShowCenter 200 (\$ 270) can distribute programs, photos or music to every TV or speaker system in your home. ShowCenter 200 software takes music and video over wired or wireless networks, can backup these programs to DVD, and now you need a DVD burner to do so.

PC protection

For years, you have heard that you have to use security software to protect your computer. But you can do security by upgrading your hardware and adding physical protection to your PC.

To thoroughly protect your PC's safety at home as well as in the office, you lock your system and hard drive, and add fingerprint recognition devices (biometrics) to secure operating systems and applications. use.

Lock data

Any physical security on the PC will make the thief afraid. If you really want security, don't want anyone to touch the data, you have to lock the hard drive when needed, and store it in a locked locker when you're not using it.

Start with the lock for your PC, for desktops and laptops, even for anything on your desk. Kensington lock for Microsaver (\$ 6 and up, find.pcworld.com/48429) is one of many such products, quite compact and light enough to carry when you go and durable enough to hold the device. Your calculator safe at work. Compu-lock's 007 security system for desktop computers (\$ 29, find.pcworld.com/48430) includes a set of stickers and a lock cord to lock the desktop box tightly to any hard surface Come on.

Bring with you

One way to protect data from prying eyes is to simply carry the device with you. Lockable hard drive boxes can protect your hard drive and there are many suppliers of such devices as Addonics, Datastor and Promise. At the desk, you can lock the hard drive right in the case. When you have to carry data with you, unlock the hard drive, slide the hard drive out of the tray and carry it. The price for each tray is from 8 USD to 50 USD.

If you're looking for something more compact, try the USB Cardmedia Biodisk Flash drive (depending on the size, find.pcworld.com/48432) or the FBIDrive Flash drive (www.fbidrive.com) from Newport Scientific Research. Both products have integrated fingerprint readers. To get the data out of the drive, you need to scan the fingerprint into the available fingerprint reader on the device. You can also use this reader to log in to the computer.

Storage security

There are many products with integrated biometric security. Solutions' Lockbox (priced from \$ 200, find.pcworld.com/48434) is an external hard drive with a built-in fingerprint reader. Lockbox can take anywhere, with capacity from 80GB to 200GB. It supports up to 8 people sharing a hard drive.

Before connecting Lockbox to PC, you must set up on the software. The software instructs you to set up an admin account, giving you complete control over your hard drive and managing other users using the hard drive. You can give others access to the entire hard drive or you can assign a free disk space to each individual user via fingerprint security. Other software based on fingerprints can also take advantage of this security feature of Lockbox.

Biometric security

Managing passwords nowadays is no longer a headache as before because you have to remember a lot of different confusing passwords, but you still need a master password to protect all of the above passwords. This bodyguard is great if you forget the master password. That's why biometric devices are so convenient, they identify you with your PC using fingerprints or biological details that you alone have. You can log in to your device, web site, and e-mail account just by putting your identity on your PC, so you can 'talk' to the device.

If you are going to convert all of your written passwords into biometrics, take a look at Microsoft's biometric Intellipoint mouse and keyboard (prices start at \$ 45, find.pcworld.com/48436). . These input devices give your fingers the right to 'speak'. Chúng thay thế mật mã của Windows ?? ??ng nhập, phần mềm Password Manager của Digitalpersona cũng rất dễ dùng (www.digitalpersona.com).

Digitalpersona cũng bán một bàn phím với ??u ??c vân tay (bàn phím U.are.U giá 130 USD), hoặc ??u ??c vân tay riêng. ??u ??c vân tay khác là Verifi P3400 của Zvetco Biometrics (giá 99 USD, www.zvetcobiometrics.com) kết nối qua cổng USB và có thêm một ??ng d??ng quản lý mật mã.

Một khi bạn cài phần ??ng và trình ??i ??u khi ??n cho các thiết bị b??o một sinh tr??c h??c nh?? b?? ??c vân tay của Microsoft, việc thiết lập nh??n diện vân tay cho Windows và trang web khá nhanh và dễ dàng. Ví dụ, ?? thiết lập ??ng nhập vào 1 trang web ??a thích, ??n gõ tên ch?? vì ??c nh??n chuột vào tên ng??i dùng hay log in vào trang web, ??t tay vào ??u ??c vân tay, gõ tên và mật mã vào của s? pop-up của ??u ??c vân tay, sau đó ??t tay vào ??u ??c 1 lần nữa. Nh?? vậy, bạn có thể ??ng nhập vào trang web ch?? b??ng ??ng tác ch??m tay. Các sản phẩm của Microsoft cũng hỗ trợ Fast User Switching trong Windows XP ?? thiết lập ??ng nhập tên ??i h??n.

Ng??n ch??n nh??ng c??p mật tò mò

Ng??i dùng MTXT th??ng hay di chuy?n ch?c h?n r?t b?c mình v?i nhi?u c?p m?t tò mò. N?u b?n mu?n ng??i ng?i k? bên mình không th?y ???c vi?c b?n ?ang làm thì hãy xem Privacy Filters c?a 3M (có giá kh?i ?i?m là 35 USD, find.pcworld.com/48438). Nh?ng mi?ng nh?a m?ng này v?a v?i màn hình MTXT c?a b?n và gi?m ???c góc nhìn, ch? ng??i ng?i tr?c di?n v?i màn hình m?i có th? xem ???c. Còn v?i máy tính ?? bàn thì sao? 3M c?ng có màn hình LCD 17 có b? l?c tích h?p s?n bên trong (giá 500 USD, find.pcworld.com/48439).

Lê Duy

PC World M? 8/2005.

You finished reading the article "**Your computer: Polish PC**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.