

THINGS TO CONSIDER WHEN CHOOSING A COMPUTER CASE

In the past, computer cases were all very similar. Clones of the same boring, beige box. With all of the choices available today, this is no longer the 'case', and people can use their systems' chassis as a means to express themselves and to set their system apart from the rest. Although appearance may be a big one, it isn't the only factor in the selection process and the following items should be considered when shopping for a new computer case.

1. Form Factor



There are different sizes of motherboards, which in turn require different cases to house them.

Case form factors share the names of the motherboards they support, and some of the common ones include ATX, Micro ATX (mATX), FlexATX and Mini ITX. ATX motherboards are perhaps the most common, and the largest of the four, measuring at most 12" x 9.6" (305mm x 244mm). A Micro ATX board is at most 9.6" x 9.6" (244mm x 244mm), a FlexATX is 9.0" x 7.5" (229mm x 191mm) and a Mini ITX comes in at a tiny

6.7" x 6.7" (170mm x 170mm). ATX and mATX are by far the most popular motherboard sizes for consumer motherboards, and hence, most cases are made to support one or both of these sizes.

A mATX motherboard can obviously fit in a smaller enclosure than an ATX motherboard, and therefore there are different size cases available to match. The larger cases are generally downward compatible with smaller form factor motherboards, but the opposite is not true. For example, someone with this Amtron mATX motherboard could save a few inches and install it in this 14.25" tall mATX case, or pick something like this black ATX case that stands just a bit taller at 16.5".

Many branded systems (ones that you may buy prebuilt and with preinstalled software) are usually a combination of a standard form factor (such as mATX) with some type of proprietary design (usually in the front panel switches and cabling) and buying a new case for these types of motherboards can be tricky. Some branded systems also use lesser used form factors such as NLX and LPX (which employ riser cards for the expansion slots) and finding replacement cases for these types of systems can be a very difficult and pricey endeavor.

A smaller system may be desirable where space is tight, but larger form factor cases provide more room for multiple drives and other peripherals, and a smaller

motherboard may be better suited to a larger case in a system such as this.

2. Size

Size may go along with form factor in many respects, but even while considering cases of the same form factor, there can be variations in size in a few respects.

**SIZE Can
SIZE matter**

Areas where size can vary are in overall dimensions, the number of exposed 5.25" and 3.5" bays, and the number of internal bays.

ATX cases obviously need to be large enough to hold an ATX motherboard; some are just large enough, while others seem cavernous in comparison. If a case needs to fit under a low shelf, or between items of a certain width, it is important to choose an appropriately sized case. Cases come in two basic configurations when it comes to their size and shape, either desktop or tower.

Desktop cases are wider than they are tall and are oriented so the motherboard lays flat, while tower cases have the motherboard standing upright, and come in three basic heights. mini tower, mid tower, and full tower. Tower cases are more common these days, and currently the only style in the Computer Geeks case inventory.

The number of exposed drive bays is generally in direct proportion to the overall size of the case. A higher number of exposed 5.25" bays may be desirable for

those with more than one DVD or CDdrive, removable drive racks, and fan controllers. Exposed 3.5" bays are generally occupied by floppy drives, Zip drives, fan controllers, and things like this 9-in-1 Card Reader, and in most cases you may get one or two of these bays, maximum. This case is very similar in appearance to this other one, but they have one difference that may prove to be a huge factor. They both have four exposed 5.25" bays, but one has two exposed 3.5" bays while the other only has one. If a user had a floppy drive and the 9-in-1 card reader, they would either have to choose to install only one, or use an adaptor and take up one of their 5.25" bays.

Internal bays are generally reserved for hard drives, and systems with multiple drives require the necessary space. So, if a user decided he really wanted a yellow colored case, but needed room for five hard drives, he would be forced to choose this one (5 internal drive bays) over this one (4 internal drive bays).

3. Cooling



Cooling is a critical feature to consider when selecting a computer case. High end systems can generate a good deal of heat, and the case needs to be adequately cooled to keep the system running and stable.

The basic configuration for case cooling involves having one intake fan on the

lower portion of the front surface, and one exhaust fan higher up on the rear surface. This allows cooler air to be drawn in, passed over the various heat generating components, and exhausted out the back. There are many other cooling configurations available that may provide improvements in terms of cooling performance and noise.

One way to decrease noise, and perhaps move more air, is for a case to use 120mm (4") fans instead of the usual 80mm (3") fans, as larger fans don't need to spin as fast to push the same volume of air. This A-Top Z-Alien utilizes a 120mm exhaust fan that also features another key feature to good cooling. The fan grill is very open, meaning that there will be minimal resistance to air flow and reduced noise as the air rushes past it. Many fan grills are made from perforating the case's sheet metal, and they do not provide enough open area for good airflow.

Another approach to better cooling is to throw more fans at the heat.

This Matrix case adds another fan to the side panel which will draw cool air in right on top of the processor and video card, two of the hotter items in a system. Other cases will add an exhaust fan to the top of the case, which pushes the heat out just like a chimney.

No matter the approach, cooling is one area that needs close consideration when

it comes to cases intended for today's high powered systems.

4. Installation Features

Installing a system into a case can be a time



consuming affair, which can become annoying to those who find themselves in a continuous cycle of upgrading. Many cases now include convenient features to make installation much simpler, and far less time consuming

Some of these convenient installation features include a removable motherboard tray, removable drive cages, tool-less expansion card mounts, tool-less side panels, and tool-less drive rail systems. Being able to remove the motherboard tray and drive cage makes it easier to work on those specific areas in the open, and having a tool-less system for mounting drives or cards means there is no need for screws or a screw driver. Definitely time savers!

Although the listing on the Computer Geeks site does not specify it, this X-Blade ATX case features both a removable drive cage and tool-less drive rail system, according to this review.

5. Convenience Items

It is not enough for a case to house a computer system any more, it now needs to multi-task. Having regularly used connections on the front or top of the case is

one common convenience feature that many people look for. Cases such as this A-Top Z-Alienmodel let users forget about the annoyance of reaching around the back of their case to plug things in, as USB, Firewire, headphone and microphone jacks are located on the top.

Other cases are available that take convenience to another level by including clocks, digital thermometers that monitor specific components, and fan controllers to help maintain a healthy balance between noise and cooling performance.

6. Style

A few years ago cases only came in one color and one basic style. plain beige boxes. If you're nostalgic for the olden days of computer cases, Computer Geeks still has one for sale in this style, the KG-200. But cases now come in styles from mild to wild, and in a whole rainbow of colors. Some have large windows in the side panel to show off the case's



insides, some include special lighting effects, and some have appearances that might scare the kids. At this point there seems to be few limits in case design, but there are always classically styled cases in updated color schemes for those who want something modern looking, but nothing too intense.

7. Power Supply

Many cases are sold with a power supply included, but this power supply might not be the correct one for the system to be installed inside of it. An adequate power supply needs to be chosen to meet the demands of the system, and this may very well mean buying an additional power supply to replace the one included, or selecting a different case with a more appropriately sized power supply.

For example, someone may decide their high end gaming system would go well in this black ATX case, but the included 300W power supply may not be strong enough for a top notch graphics card, multiple drives, water cooling, and other power hungry peripherals that might be installed.

Source: <http://www.geeks.com/techtips/2004/techtips-23dec04.htm>