(Image credit: MSI)A motherboard is one of the most important components to purchase when building a new PC as it's the foundation for all of your machine's parts to interact, but it's far from a one-size-fits-all solution in 2025. There are four motherboard sizes available, each with different strengths and weaknesses, with smaller and larger fiberglass rectangles used for different purposes.As such, there's no easy answer for what the best motherboard can be, so it's vitally important to know the four commercially available sizes, rough pricings, and the sockets available for some of the best processors on the market. After all, compatibility is vital in 2025, particularly if you're eyeing up some of the best DDR5 RAM, best graphics cards, and other PCIe 5.0 components for the build.From Mini-ITX models up to their EATX counterparts, TechRadar goes into detail about motherboard sizes in 2025, which companies are supporting them, the current-generation sockets, and everything else you need to know so that you can build your own machine with confidence.You may like (Image credit: Asus/Gigabyte/MSI)FutureThere are four motherboard sizes available in 2025 from major manufacturers such as Asus, Gigabyte, and MSI, among others. These are Mini-ITX, MicroATX, ATX, and E-ATX. As the naming conventions imply, the two smallest models are the mini-ITX and MicroATX options, which measure 6.7 x 6.7 inches and 9.6 x 9.6 inches, respectively. The most common motherboard size is ATX, which measures 12 x 9.6 inches. For those that need a little extra headroom for additional components, E-ATX (Extended ATX) offers the largest amount of space with 12 x 13 inches of fiberglass available. As can be evidenced from the motherboard size chart above, there's quite a dramatic difference in scale between Mini-ITX and MicroATX, with more of a subtle difference when comparing ATX and EATX, generally with the latter having more room on the right-hand side. In terms of use cases, both Mini-ITX and MicroATX motherboards are favored for small form factor (SFF) work and gaming computers, such as those you may use in a low-profile office setting or a console-sized rig for living room setups. As the smaller scales suggest, you can expect fewer PCIe lanes for connecting components (and a more cramped building experience depending on the PC case you're using. This also means limited room for some of the best CPU coolers (and more limited airflow in general), so this is something paramount to consider before you invest. As a frame of reference, Mini-ITX is around two-thirds the size of an ATX motherboard. Historically, the former was designed for lower power consumption and efficiency when compared to the more common sizes. However, in 2025, some manufacturers have started catering to gamers and power users in this smaller size, though you (typically) will pay a premium in comparison. (Image credit: Asus)Starting out with Mini-ITX motherboards, these models tend to be the more expensive way of building a small form factor (SFF machine) when compared to microATX which is (generally) considered to be a more wallet-friendly option. This is consistent in the prices that you'll see purchasing between Mini-ITX and microATX, as reflected in today's popular models from major manufacturers. Socket AM5 options sell for more of a premium in the Mini-ITX form factor, as can be evidenced by the ASRock A620I Lightning Wi-Fi ($139.99), Gigabyte B850I Aorus Pro ($279.99), MSI MPG B650I Edge WiFi ($299.99) with a rough range of the budget and more premium offerings. In contrast, MicroATX equivalents are (generally) more affordable well under the $200 mark, including the ASRock B650M Pro RS ($139.99), MSI Pro B650M-A Wi-Fi ($159.99), and Gigabyte B850M Gaming X Wi-Fi 6E ($179.99). Price and size aside, another major difference between Mini-ITX and MicroATX is the number of ports and connections available on the motherboard. Due to its cramped 6.7 x 6.7 inches available, Mini-ITX models usually only have a single PCIe x16 slot for the graphics card and up to two M.2 SSD ports. Depending on the manufacturer, there may only be two RAM slots instead of four, and the rear I/O could be more cut down by comparison, resulting in fewer USB ports and other connections. MicroATX, in contrast, usually features two PCIe x16 slots, up to four M.2 ports, and vastly more expansive options for its rear I/O, because you've got 43% more space on the motherboard. In theory, MicroATX seems to be a superior option (being cheaper and offering more); however, it's also larger in a way that makes certain small form factor (SFF) builds harder to achieve, being less slick and compact as a result. This should make your choice depending on your use case; do you need more than dual-channel RAM, and a 2 ports, a graphics card slot, and a basic rear I/O? If so, maybe the silicon needs to be larger. (Image credit: ASRock / MSI)When compared to the two smaller motherboard sizes, ATX and E-ATX variants do not seem as drastically different on the surface. However, the extra space afforded by the 35% more space can be staggering, depending on the hardware you're planning on using. While ATX motherboards traditionally feature up to four PCIe x16 ports and four RAM slots, E-ATX versions can boost things up as high as eight PCIe x16 ports and four RAM slots. E-ATX boards are considerably more niche than their ATX counterparts, as can be seen with the pricing of the ASRock X670E Taichi ($449.99) and the MSI MEG X670E ACE ($499.99). In contrast, similar ATX models are much cheaper, like the ASRock X670E Steel Legend ($259.99) and the MSI MAG X670E Tomahawk Wi-Fi ($239.99). With that said, is the extra real estate worth potentially paying double (or more) when compared to an ATX motherboard? It will ultimately depend on the use case. The power user will get the most out of the larger board space, which can be particularly important if you're thinking of forging a high-end creation or gaming PC featuring a custom loop in your latest E-ATX compatible PC case, complete with blending-edge components. It all comes back to airflow and the space required; E-ATX will afford you as much room as possible, provided you can stomach the sticker price. It's commonly been debated that gamers will not see the benefit of the extra data lanes afforded by an E-ATX motherboard. Instead, those planning a server rig, a deep-learning machine, or something more granular might find the extra slots and connections of vital importance. Do you need more expansion slots? Then E-ATX may be the solution here, otherwise, ATX will satisfy the vast majority of PC users for just about any task imaginable while also being far more affordable and available. (Image credit: Gigabyte)We've outlined the four different motherboard sizes available in 2025, their use cases, price differences, and varying features as they stand right now. Choosing a motherboard is not as cut and dry as you would expect, and that's why you need to visualize your rig before putting any money down. Consider the chipset of the board first. Will you use AMD's AM4 or AM5 platform? Similarly, will you pay the premium required for modern power supplies, and desktop cases that defines size, position, and power delivery. This set of rules helps every component work together, regardless of manufacturer.

stages and the more robust the delivery system, the better. Whether you're planning on buying a premium gaming motherboard or are looking to snatch a good price on a clean-looking, business-branded model, you should always purchase a product that has an intricate VRM. The more chokes, MOSFETs, and transistors, the better the performance and reliability. All in all, it all boils down to personal preference when it comes to motherboard sizes. If you're working with limited space in your home or at the office, then a small form-factor PC is a great choice. A mini-ITX board can still rock a potent CPU-GPU combo, allowing you to run demanding software with a compact build. While it's easy to source components for a compact system, the building process is kind of a drag and inexperienced PC builders will struggle to get good cable management, resulting in bad airflow and high temperatures during bigger workloads. Fan size is also limited, so this type of system will be louder. If you're not constricted by space, then we think that an ATX-based PC is the way to go. Most of the time you'll get a better VRM, better cooling, and you'll always get more features. You can use the expansion slots to further customize your build, and you can run powerful hardware at great temperatures. Cooling will never be an issue, with middle-tower and full-tower cases supporting air, hybrid, and water-cooled builds, and the entire building process is much more user-friendly. Motherboards Feb 15, 2024 4 min read Motherboards are the backbone of every computer, playing a critical role in system performance and capabilities. As the central hub where all other components connect, the motherboard's features and specifications directly influence the efficiency and potential of your PC. Whether you're assembling a new build or considering an upgrade, understanding the various types of computer motherboard sizes from ATX to Mini-ITX is essential. In this guide, we'll explore the different motherboard sizes and formats available so you can make an informed decision for your next project.Exploring Different Types of MotherboardsThe size of a motherboard corresponds to its type so were here to talk you through some of the most common numbers that pop up.PC Motherboard Sizes At a Glance Motherboard Type Standard Size ATX 305mm x 244mm Micro-ATX 244mm x 244mm Mini-ITX 170mm x 170mm Note: The size for E-ATX motherboards can vary, as there is no strict industry standard for this form factor. The size given above is a common dimension, but it's always best to check the specifics for a particular E-ATX motherboard model.ATX Motherboards:Design and Size: ATX motherboards measure 305mm x 244mm, providing a spacious platform for building high-performance systems. This size allows for better layout, airflow and cooling solutions.Expansion Capabilities: They typically come with 4-7 PCIe slots this means plenty of room for multiple GPUs, sound cards, network cards and other PCIe devices. ATX PC motherboards are ideal for users who need extensive expandability for gaming, video editing or server applications.Memory and Storage Options: Most ATX motherboards support four or more RAM slots, enabling dual or quad-channel memory configurations. They also offer numerous SATA and M.2 slots for ample storage options.Connectivity and Features: These motherboards often include a wide range of connectivity options like USB 3.x, Thunderbolt and high-speed Ethernet. Advanced features like built-in Wi-Fi, RGB lighting and comprehensive fan controls are also common ideal for gamers who want to customise their build.Micro-ATX Motherboards:Compact Size: Measuring 244mm x 244mm, Micro-ATX boards are smaller than ATX but larger than Mini-ITX. This size strikes a balance between space-saving and functionality.Expansion Slots: They typically have 2-4 PCIe slots, sufficient for a single GPU setup and a couple of additional cards. This makes them suitable for most gaming and general computing needs.Memory Support: Micro-ATX boards usually support up to four RAM slots, similar to ATX, allowing for decent memory capacity and performance.Affordability: These motherboards are often more affordable than ATX models, making them a popular choice for budget-conscious builders who still want room for system growth.Mini-ITX Motherboards:Ultra-Compact Design: With dimensions of 170mm x 170mm, Mini-ITX motherboards are designed for small form factor cases. They are ideal for compact, space-efficient builds.Limited Expansion: Typically, they have only one PCIe slot, which is usually occupied by a graphics card. This limits expansion but is sufficient for many gaming and media centre setups.Memory and Storage: Most Mini-ITX motherboards have two RAM slots and a limited number of SATA and M.2 slots due to their size constraints.Specialised Use: They are perfect for building HTPCs, portable gaming rigs, or any system where space is at a premium. Despite their size, many Mini-ITX motherboards come packed with features like Wi-Fi, high-quality audio, and adequate cooling solutions.All motherboard sizes offer unique advantages, catering to different user needs and builds. From the expansive ATX to the compact Mini-ITX, the choice depends on your specific requirements for performance, expansion and form factor.FAQs About Computer Motherboard SizesHow can you tell what size motherboard you have?To determine the size of your motherboard, you can measure its dimensions. Measure the length and width of your motherboard and compare these measurements to standard motherboard sizes (ATX, Micro-ATX, Mini-ITX, etc.). Alternatively, you can look up the model number of your motherboard online, which should provide you with its exact form factor and dimensions.What size motherboard should I get?Your ideal motherboard size depends on your specific needs and the size of your computer case. If you have a large case and need multiple expansion slots for GPUs, RAM and other components, an ATX motherboard is a good choice. For smaller builds, like home theatre PCs or compact gaming systems, a Micro-ATX or Mini-ITX motherboard could fit the bill. Consider what components you plan to use and how much space you have when tossing up between computer motherboard sizes.Are all motherboard sizes the same?No PC motherboard sizes vary. There are several different form factors, each with its own standard size. Common types include the previously discussed ATX, Micro-ATX and Mini-ITX, as well as others like E-ATX and Nano-ITX, which have different dimensions. The size you choose depends on your case size and your computing needs.Are all ATX motherboards the same size?No, not all ATX motherboards are exactly the same size. The standard dimensions for an ATX motherboard are 305mm x 244mm. However, there can be slight variations in size within the ATX specification, especially with some models offering additional features or unique designs. It's always a good idea to check the specific dimensions of the motherboard model you're interested in.Does the size of a motherboard matter?The size of your motherboard definitely matters it affects the compatibility with your computer case, the number of expansion slots available and the overall layout of your system. Larger motherboards (like ATX) offer more expansion slots and features but require bigger cases. Smaller motherboards (like Mini-ITX) are great for compact builds but offer fewer expansion slots. Your choice should align with your build's intended use, space availability and desired features.The Mother Lode of MotherboardsReady to find the motherboard that will form the foundation of your dream PC? Look no further than Mwave. As Australias best online tech retailer, our extensive range of motherboards is bound to have something that ticks all your boxes. Whether you're after the expansive possibilities of an ATX board, the balanced approach of a Micro-ATX or the compact efficiency of a Mini-ITX, weve got you covered. Dive into our collection and choose the motherboard that meets your needs and ambitions! Enjoy sharper detail, more accurate color, lifelike lighting, believable backgrounds, and more with our new model update. Your generated images will be more polished thanever.See What's NewExplore how consumers want to see climate stories told today, and what that means for yourvisuals.Download Our Latest VisualGPS ReportData-backed trends. Generative AI demos. Answers to your usage rights questions. Our original video podcast covers it allnow ondemand.Watch NowEnjoy sharper detail, more accurate color, lifelike lighting, believable backgrounds, and more with our new model update. Your generated images will be more polished thanever.See What's NewExplore how consumers want to see climate stories told today, and what that means for yourvisuals.Download Our Latest VisualGPS ReportData-backed trends. Generative AI demos. Answers to your usage rights questions. Our original video podcast covers it allnow ondemand.Watch NowEnjoy sharper detail, more accurate color, lifelike lighting, believable backgrounds, and more with our new model update. Your generated images will be more polished thanever.See What's NewExplore how consumers want to see climate stories told today, and what that means for yourvisuals.Download Our Latest VisualGPS ReportData-backed trends. Generative AI demos. Answers to your usage rights questions. Our original video podcast covers it allnow ondemand.Watch NowThe motherboard is the key component of any branded or custom PC. The size of it dictates the system performance, number of expansion slots, and more. Picking the right motherboard can be a confusing task. There are many different sizes of motherboards available in the market, and the size of a motherboard has a direct relation to what type of build a motherboard will be best suited for.Here is a detailed Motherboard Size Chart that explains all of your questions.Unfortunately, the motherboard manufacturers dont provide much information regarding the effect of motherboard sizes according to relevant tasks.This guide about motherboard sizes will give you all the necessary information you need to know when picking your next motherboard. In this guide, This Motherboard Size Chart will cover Pico-ITX, Mini-ITX, Micro-ATX, and Extended-ATXSome general breakdown pertinent to some other motherboard sizes of different types here in this Motherboard Size Chart:Motherboard TypesWidthHeightOfficial StandardSSI EEB13 in12 inYesXL-ATX10.3 in13.5 inNoHPTX15 in13.6 inNoPico-ITX MotherboardIt was announced by VIA in 2007. Pico-ITX has become a small compact popular format for specialty applications which require an extremely small, low-power computer system.The compact size of a Pico-ITX motherboard is about 100mm x 72mm (or about 4 inches by 3 inches). Pico-ITX motherboards usually include only a few basic connections such as USB, 3.5mm speaker or microphone, and a video output slot.Mini-ITX rapidly increasing popular format, Mini-ITX was originally developed by VIA for its low power C3 processor. Since then, it has been adopted by motherboard manufacturers for use with both AMD and Intel chipsets. Mini-ITX boards size is 17cm x 17 cm (6.7in x 6.7in). Mini-ITX motherboards are best suited for small home computer systems.Right now, there are Mini-ITX boards for processors using the AM2, AM3, LGA775, and LGA1156 sockets. Mini-ITX boards do line up with four of the mounting locations used by the majority of ATX boards, so a Mini-ITX board should fix in any Micro-ATX or ATX case.Micro-ATXIt is one of the most popular motherboard formats. Micro-ATX motherboards can vary in terms of size because the standard is dictated by a maximum of 244mm x 244mm (9.6in x 9.6in). Micro-ATX motherboards can be larger than that but can be smaller in size.They use standard ATX mounting area and so will fit in any Micro-ATX or ATX case.Micro-ATX motherboards can be found in literally any format with support for any socket. They always use the same chipsets as ATX boards do but are typically lacking a few expansion slots being small in size.Micro-ATX boards are suited for almost any role, but the limited number of expansion slots does limit their all-around performance. For example, it is often quite difficult to install a large video card and a sound card onto a Micro-ATX board.ATX MotherboardIt is the most popular motherboard format of the last decade and a half. The ATX history goes all the way back to 1995. From that time onwards, it has become the most commonly used standard for motherboards.ATX motherboards usually have a size of 305mm x 244mm (12in x 9.6in) and will, of course, fit into any ATX case, although the actual body size of the board is very much larger for Mini-ITX and Micro-ATX cases.Just because of the fact that ATX format is so popular there is a limitless combination of features available for these motherboards. These are manufactured for almost every chipset and possess a vast range from very low budget boards to high-end products with multiple PCI Express slots and a cluster of connections.ATX motherboards will be well suited for any build except for those which require a small physical size.Extended-ATXAn increasingly rare format known as the Extended-ATX is simply a larger version of ATX. Its size is 305mm x 330mm (12in x 13in). Because of their huge size, Extended-ATX boards will only fit into cases made specifically for them.One of the biggest advantages of having this card is its extra length that provides more room for additional expansion cards and slots for various other components and parts, but this is the only major difference between ATX and Extended-ATX boards. Extended-ATX motherboards are mostly used just in selected workstations and some servers.There are several points to be noted from both the picture and the breakdown above. Firstly, you may be wondering how SSI EEB and E-ATX have the same measurements but in one image, they have different sizes. Well the EVGA X580 Classified that we used is officially E-ATX but it doesnt suppose to be maximum in size possibly.Secondly, like most of you, i was also curious why there would be two different standards that have the same measurements. It is because of having different standards for multi CPU and Single CPU motherboards. Specifically, SSI EEB was defined by the Server System Infrastructure (SSI) forum for certain workstations or value servers. They even define the placement of each CPU to standardize the cooling solutions. The boards do share many of the same standoffs but there are three standoffs in the middle that do not line up. A few slight customizations and you can fit your new dual CPU SSI EEB board in your available standard case.One more thing you must have noticed that I pointed out sizes that are official standards. It is quite hard to not talk about motherboard sizes without mentioning that XL-ATX and HPTX are actually not official standards. Just because of this factor, finding cases that will actually fit these boards can be very difficult.XL-ATX motherboards can be easily found from both Gigabyte and EVGA. HPTX, on the other hand, was a form factor that EVGA came out with for their SR-2 motherboards.I am really hopeful that my compact and to point write up has helped you understand motherboard sizing a little better with ease. Thanks for reading my article and spent your valuable time with my content. Have a nice day.Team- Whatlaptops.com Knowing the differences between various motherboard sizes is imperative to building your first PC setup. Go into this complex journey blind, and it could end in disaster. Motherboards determine many other components of your overall build, including your processor and graphics card. Before getting into the specifics, lets review this motherboard size comparison chart! Motherboard sizeHeightWidthATX12 inches9.6 inchesMicro ATX9.6 inchesMini ATX11.2 inches8.2 inchesE ATX12 inches13 inchesWTX14 inches16.75 inchesFlexATX9 inches7.5 inches If you prefer a visual look instead, check out the image below: If you want to learn more about each size, how a motherboard impacts your desktop system, and much more, read on! Youll be a motherboard expert in no time! Six common motherboard sizes accommodate various PC purposes. Depending on each size, you can install fewer or more components to suit your use case. Motherboards are central communication systems that control other computer/laptop components. Standard motherboard components include the CPU socket, card slot, RAM slot, BIOS/CMOS, ports, cabinet connection, and power connector. A motherboard is the central communication hub of the computer or laptop. Alternative names include a circuit board, mainboard, or logic board. Motherboards enable various PC components to communicate seamlessly, including your central processing unit (CPU), graphics processing unit (GPU), storage, RAM, and memory. These devices exist in all PC setups and typically contain six to 14 layers of fiberglass and copper planes for power and signal. The CPU, or central processing unit, is the computers brain and is mounted on the motherboard. The motherboard also has slots for RAM, or random access memory, which temporarily stores data that the computer uses. It also has slots for other components, such as graphics cards, sound cards, and network cards, which add functionality to the computer. As you saw in the chart above, there are 6 main motherboard sizes: FlexATX (9.6 x 9.6) Mini ATX (11.2 x 8.2) ATX (12 x 9.6) EATX (12 x 13) WTX (14 x 16.75) Are these sizes important? Yes! Depending on the size of your motherboard, you can install more or fewer components. For example, a standard ATX motherboard has a maximum of seven PCI or PCI-Express expansion slots, while a MicroATX only has four. Generally speaking, a larger motherboard offers more slots than a smaller one. However, most of them are compatible in terms of mounting points. Thus, a computer case that fits an ATX motherboard will also hold a MicroATX. And getting the smaller one is occasionally a good idea. If you dont need to build a super-computer with extra slots, theres no point in spending more for a larger motherboard. When deciding to build a computer, its always good to start by determining the motherboard size and only decide upon a desktop case and all the other components afterward. Weve learned that a motherboard will offer more slots depending on size. The actual offering can vary from model to model, but all motherboards need to provide support for these standard components: CPU Socket A CPU socket is a physical interface on a motherboard designed to hold and connect a central processing unit (CPU). The CPU is the primary component in a computer that performs most of the processing tasks, and the socket is the connection point between the CPU and the motherboard. The socket is compatible with specific CPU types and models. Different kinds of CPUs require different socket designs and connections, so choosing a motherboard with a compatible socket for the CPU you want to use is essential. Card Slots A card slot in a computer is a physical port or socket on the motherboard designed to hold and connect various types of expansion cards. Expansion cards are add-on components that provide additional functionality to a computer system, such as graphics processing, sound processing, networking, and storage. Different types of expansion cards require different slots or connectors on the motherboard. For example, a graphics card typically requires a PCI Express (PCIe) slot, while a sound card might use a PCI or PCIe slot. Network cards and storage controllers may use different types of slots, such as M.2 slots or SATA ports. Most modern motherboards (especially those created for gaming) will offer more GPU slots, for example, for an entirely customizable product. Ensure you double-check the design and the placement of these slots its not uncommon for some graphics cards to come with a huge fan that blocks the additional GPU slot that a motherboard might offer. RAM Slots RAM slots in a computer are physical ports or connectors on the motherboard to hold and connect RAM (Random Access Memory) modules. Different types of RAM modules require different sizes or connectors on the motherboard. Common types of RAM modules include DDR, DDR2, DDR3, and DDR4, and every kind of RAM requires a specific type of slot on the motherboard. The RAM modules are inserted into the slots on the motherboard and secured in place using retaining clips or other mechanisms. Once installed, the RAM can communicate with the CPU and other components on the motherboard, providing the computer with the memory it needs to run applications and perform tasks. Some motherboards only have two RAM slots, while others can hold up to four. BIOS and CMOS BIOS (Basic Input/Output System) and CMOS (Complementary Metal-Oxide-Semiconductor) work together to control and manage the systems hardware. BIOS is firmware stored on a chip on the motherboard. It is responsible for overseeing the computers boot process, detecting and initializing hardware components, and providing a basic set of input/output functions. BIOS configures various system settings, such as the system clock, CPU clock speed, and RAM timings. CMOS stores BIOS settings and other system information on a small, battery-powered chip on the motherboard. CMOS memory is non-volatile, meaning it retains data even when powered by the computer. The CMOS chip also includes a real-time clock (RTC), which keeps track of the current date and time. Without these components, the motherboard would be unable to boot your operating system and optimize performance. Input & output ports A motherboard contains several input and output ports that connect various devices and components to the computer system. These ports provide connectivity to external devices and are on the back or front panel of the computer case. Cabinet connection is the connection between the motherboard and the computer case. This connection provides power and connectivity to various components and features of the case, such as the power button, reset button, front panel audio jacks, and USB ports. Power connectors A power connector for a PC is a cable that connects the power supply unit (PSU) to the components of a computer system, providing the electrical power needed for the system to function. The power connector carries electrical power from the PSU to the motherboard, CPU, graphics card, storage devices, and other components. Wrapping up Choosing the right motherboard size is critical when building a PC. It determines the type of components you can use, the number of expansion slots available, and the overall form factor of your system. By considering your budget, intended use, and future upgrade plans, you can decide which motherboard size will work best for you. In this case, bigger is better because a larger motherboard provides more options to connect peripherals and components. If you plan to upgrade your setup sometime in the future, doing so is much easier with a bigger motherboard. Still, you can use a smaller microATX can to create powerful, custom-made gaming PCs. Picking a right-sized motherboard is one of the most crucial tasks while building a new PC. The kind of motherboard you pick highly affects the performance of the PC system. These ports provide connectivity to external devices and are on the back or front panel of the computer system. Since all motherboards come with different numbers of expansion slots and support different kinds of hardware. Hence, if you are curious about different types of motherboard sizes, to this page and keep reading until the end to learn about Motherboard Sizes. Motherboard Form Factor Comparison ChartIn general, there are four basic motherboard sizes that are most commonly used. Most do not differ from each other apart from their sizes? Lets take a quick peek:ATX EATXMicro-ATXMini-ITXMax Size12 x 9.612 x 139.6 x 6.76.7 x 6.7RAM Slots2 to 82 to 42 to 42 to 2TypeDIMMDIMMDIMMDIMM, SODIMMExpansion Slots4 to 7 PCIe Slots4 to 8 PCIe Slots2 to 4 PCIe Slots1 PCIe SlotGraphics Card Slots1 to 41 to 41 to 1SATA ports4 to 124 to 124 to 82 to 6Different Motherboard Sizes or Form FactorSince you are looking around to find the best motherboard for your upcoming PC build, there are a few facts about motherboards regarding their size and form factor. You might already have that in mind whether you want to build a small PC, a standard one, or a full-tower. Depending on those needs you can have to pick the right size of motherboard that could fit in the chassis while still providing you with max performance.In terms of form-factor, large-sized motherboards have an EATX or ATX have good enough room for multiple expansion slots, RAM slots, and other components. Hence, a powerful build is easy to make.On the other hand, if you go with smaller motherboard options like a micro-ATX or mini-ITX, you will have comparatively lesser ports available for expansion cards, and that could become a limiting factor for the overall PC performance. So, to make things clear, lets discuss each type of motherboard one by one so that you can compare them and choose one suitable for your next PC build.1. ATXLets talk about the elephant in the room first; the ATX motherboards are every PC builders first choice to consider. Since the size of ATX motherboards is generally around 12 x 9.6, you can easily plan to build a full-tower or mid-tower using such motherboards. Moreover, finding a compatible ATX motherboard is comparatively easier than the other options.Since the size of the ATX motherboard is fairly decent, you can expect the motherboard to come with plenty of hardware slots as well. Apart from that, theres always an opportunity to use multiple graphics cards as ATX motherboards generally have 2 to 4 PCIe slots for video cards. Apart from that, if we speak about RAM slots, most ATX motherboards come with 4 DIMM slots supporting dual or quad-channel memory.Moreover, there are usually plenty of expansion slots for video cards, sound cards, SATA ports, fan headers, and other adapters. Apart from that, these motherboards provide you the best value for your money as they are so widely and commonly used.Pros:IO section has plenty of portsIdeal for multi-GPU setupsRoom for expansionCons:Not ideal for small PC casesA little expensive than smaller motherboards2. Extended ATX (EATX)If you look for a slightly bigger motherboard than the ATX ones, theres an extended version of such motherboards available as well. E-ATX basically stands for extended-ATX, which generally has a size of around 12 x 13.The features on this kind of motherboard are fairly the same as of an ATX motherboard. But, since the size of the chassis is bigger, EATX motherboards generally have more expansion slots. You can expect an EATX motherboard to come with a few more additional heat sinks than ATX boards.Apart from that, there can be more heat sinks as well that can help to maintain the temperature of the components. In some cases, there can be up to 8 RAM slots on an EATX motherboard sometimes up to 2 CPU sockets as well. Having support for dual-sockets allows you to run two processors at the same time which can make your PCs performance quite high.Pros:Some motherboards even have dual CPU socket supportMore RAM slots are available.Expansion slots are present in abundanceCons: 3. XL-ATXUnlike the ATX and EATX motherboards, the XL-ATX motherboards are not used quite often as it does not provide any remarkable advantages over the latter. In terms of size, these are the largest motherboards but are actually very rarely seen in the market these days.An average XL-ATX motherboard usually has dimensions around 13 x 10.4. Since the majority of people are satisfied with the ATX and EATX motherboard, the need for a larger motherboard is vanishing as the hardware components are becoming more powerful and compact with time.You can definitely use one of these in case you need multiple PCIe slots and need to build a multi-GPU setup for gaming. Apart from offering a few extra expansion slots, and RAM slots, there is no big advantage of using an XL-ATX motherboard.Pros:Not compatible with standard size PC cases4. Micro ATX (mATX)If you drown the ATX motherboards by a few centimeters across its length and width, you get a smaller version of it. With smaller size and build, you do sometimes have to sacrifice a few slots as well.Like an ATX motherboard, you do get to see similar specs like 4 RAM slots, but thats the case when you are buying the high-end models. In mATX models, you also get to see motherboards with only 2 RAM slots and fewer PCIe slots.Although you get most of the features and compatibility in the mATX motherboard, the only drawback is that you will have less room for future expansions. As of today, all the mATX motherboards out there are quite similar to ATX ones and support similar hardware components as well.But, since the size is small and you get a few lesser ports, the pricing of these mATX motherboards is more affordable. Apart from that, the compact size of these kinds of motherboards allows you to use them even with smaller PC cases.Pros:Less pricey than larger modelsIdeal for smaller buildsCons:Fewer expansion slotsNot an ideal option for high overclocking5. Mini-ITXYou can pretty much guess about the size of these motherboards by just looking at the name. The mini-ITX boards are actually the smallest motherboards out there on which you can use the standard-sized hardware components.The size of these motherboards is generally around 6.7 x 6.7, which makes them the smallest among all, so far. That said, the availability of a larger VRM section and heatsinks are very rare.With such a smaller form factor, you cannot expect the motherboard to have more than 2 RAM slots. Apart from that, building a multi-GPU setup using a mini-ITX is not possible either, as you dont get more than one slot for that.Most mini-ITX motherboards have 4 pin power connectors; hence power delivery is also not great either. Hence, overclocking dreams can never come true with such build in most cases. However, the major benefit of using a mini-ITX is that they are cheap, and can fit easily inside a small-sized PC case.Pros:Can help you build a compact PC buildCan work with standard-sized hardware componentsFit for small cabinetsCons:Limited VRM performance and HeatsinksNot a good choice for overclocking6. Nano-ITXMoving over to the next motherboard type, the nano-ITX are even smaller motherboards than the mini-ITX, measuring around 4.7 x 4.7 only. Primarily, these motherboards are designed to consume very low power.Hence, they are pretty limited and only work with specific hardware components. That said, the nano-ITX motherboards are often used to build small computers ideal for smart entertainment purposes like PVRs, smart TVs, or automation purposes mostly.Pros: Cons:Not compatible with all types of standard PC cases7. Pico-ITXPico-ITX motherboards measure around 3.9 x 3.9 and are even smaller than the nano-ITX motherboards having even lesser slots and features. Basically, these motherboards are quite often used in devices designed for IoT and automation purposes. These boards are a great choice for such devices since the power consumption is quite low and can be implemented easily in industrial automation devices, and similar other devices.Pros:Ideal for small IoT devicesLess complicated to useCons:Compatible with a limited range of hardwareConclusionWe hope you have got a decent idea about each kind of motherboard by now. While buying a motherboard, basically, you pay for the expansion slots and other connection ports. That is why the larger-sized motherboards with more slots are expensive as compared to the smaller boards, which have fewer ports.For your upcoming PC build, if you want to utilize multiple GPUs and want to build an extremely powerful PC, an EATX or ATX motherboard can be the best pick for you. On the other hand, if you have a limited budget or intentionally want to build a smaller PC, you can choose between mATX and mini-ITX boards as per your requirements. For any other queries related to motherboards, you can feel free to discuss them in the comments section below. Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. 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