

The River Cities DAILY TRIBUNE

'Living In a Tech World' Column

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Making Sense of Computer Descriptions (Parts One Two and Supplement)

There are not many major purchases that we make more than once or twice. But one that a lot of us make every 2-3 years is a computer. You have your primary computer, the kid's computer(s), a laptop and then the replacements for each of those.

Because the technology changes monthly the choices never seem familiar. You know the drill; you go online or to a retail store and look at the ads or the placards over the computer and see:

Desktop PC - Intel Pentium Dual-Core E5200 2.5GHz 64bit, 6 GB DDR2 SDRAM, NVIDIA GeForce 9500 GS 512, SATA 500GB 7200 DVDRW-LS, 10/100/1000, Vista Home Premium 64-bit SP1

Unless you are a practicing geek it looks more like a randomly generated password of letters and numbers than a product description. But it does tell you most of what you need to know. So let's break it down and consider what you should be looking for in a desktop computer. This week we'll explain the first half of the puzzle and then finish next week.

Intel Pentium Dual-Core E5200 2.5GHz 64bit

This is the CPU the central processing heart of the system. Intel is one of two brands you are likely to see and AMD is the other both with various model names. Each have their hard core enthusiasts but for most home users there is not much difference between the two companies.

E5200 designates the model of which there are dozens. *2.5GHz*, denotes the speed of the processor. In earlier times the speed number, higher the better, was the determining factor but now some processors do not even note the processing speed because there are other factors that can make a 2.5 GHz faster than a 3.1 GHz speed. *64bit* is another measure of calculation speed. Over the last year it has begun to be generally offered in PC's taking the place of 32bit systems. You will still see 32 bit systems but they are rarely noted in the description. Now we need to skip back to *Dual-Core*. Dual Core means that the CPU is made up of two processors. This has become the standard processor in mid-price range with the upper end processors being Quad-Cores.

All of this is about computing speed and how much you need depends on your use. In our on-line supplement we'll outline what is important relative to your proposed use but if your needs are basic like email and office programs and looking at photos occasionally a single core 32bit processor will work just fine. If you are considering gaming, video editing and other high end uses you should be moving to 64-bit but also understand a 32bit can be as fast as 64bit and a dual core can run as fast as a quad core because both of these depend on software to be written to take

(more)

advantage of the increased processing power. At this time, higher end programs are beginning to take advantage of 64bit and only a few of the newer games take advantage of quad core processors. That may mean you are buying more power than you need or can use or it may require you to spend additional money for software upgrades. But if you are trying to future proof your computer, give up. You will never get ahead of technical advancement by buying the high end you can add a year or two to the useful life of your purchase.

4 GB DDR2 SDRAM

This is the amount of ram (random access memory). I explained the importance of ram in a previous column (<http://vccdigital.com/columns/column two.html>), but briefly, when you launch a program it is stored in ram so the more you have the more programs you can open at once and the faster your computer will seem to run. DDR2 SDRAM indicates the speed of the chips. This is currently the standard, if there is such a thing in computers, but you will also see DDR3 and DDR4 modules. The most important things to know about ram is that it takes 1 GB to run Windows XP, 2GB to run Vista and the more the better EXCEPT, 32 bit systems only recognize 3GB in XP and 4GB in Vista but 64bit systems will recognize virtually any amount of ram you can plug in.

NVIDIA GeForce 9500 GS 512

This refers to the video card or chip in the computer. It is the manufacturer name and model number. Each model is based on a different configuration of chips and to find out about the speed of this card you need to research it separately. 512 is the amount of ram (random access memory) on the video card. It can also be 256 or 1 GB. If there is a separate video card in the system the memory on that card needs to be calculated into the amount of general ram to determine if the total ram memory is in the range limitation of your operating system (see last week's column). In low and mid range computers you will generally not have a separate video card. Instead video is handled by a chip on the motherboard. In that case the chip model may be noted and often uses an 'express' designation. Integrated video uses your general ram memory for video so it decreases the amount available for running programs so it is important to have as much memory as possible if your video is integrated.

SATA 500GB 7200

This denotes the hard drive. A SATA drive has greater throughput than the older ATA versions. The first number is amount of storage space and second number the disk speed. 500 GB (gigabyte) has become an average sized drive. But you will see a range of 160 to 1000GB or 1TB (terabyte). Your use of the computer will determine the optimum drive size. As to speed, 7200 is the norm but you will still be offered 5400 drives in lower end systems. The numbers refer to revolutions per second of the disks and the faster the better for improving the amount of time it takes to read or write a file to your drive.

DVDRW-LS

This describes the optical drive. In days past you might choose between a CD or DVD but today the norm is a DVD. The RW designates that you can write to the drive and you can use rewriteable disks, that is, disks that can be erased and reused. The LS indicates that this is a Light Scribe device. Light Scribe allows you to label your disk in

the drive in a monotone label if you are using special disks. These drives also handle CD disks in both read and write mode.

10/100/1000

These numbers refer to the network card (NIC) and amount of data that it can pass across the network or to and from the Internet. 10/100 is the norm but you should look for a 1000MB card if you think the computer may be used to pass video or large files across your home network or the Internet.

Vista Home Premium 64-bit SP1

Finally we know the operating system (OS) that is included in the purchase. In this case it is one of the four primary versions of Vista. You can compare the versions at <http://www.microsoft.com/windows/windows-vista/compare-editions/default.aspx>. Home Premium is the minimum OS that you should be looking for. From there you graduate to a Business edition which has some benefits even for the home user. Having the 64-bit version (and the SP1 update) wraps up the information. In this example we had a 64-bit processor and 6GB of memory. In order to take advantage of this power you will need the 64-bit OS. If the version description does not specify 64-bit it can be presumed to be 32-bit. Either way your current software will run as it has in the past. But to take advantage of the more powerful configuration you may have to upgrade some programs to versions written specifically for the 64-bit system.

See, it is not so complicated. Well, it is but now when you are shopping you can make comparisons of configurations against price and hopefully have some idea of what you need. Check our website for more information on what which of these elements are important based on your use.

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Making Sense of Computer Descriptions (Supplement)

My March 15 & 22 Columns dealt with deciphering the 'descriptions' you get when you are looking for a new computer. Space did not allow me to provide you with information on how to determine which of the parts was the most important to you based on how you use or plan to use the computer. This was the made up description we have been referring to.

Desktop PC - Intel Pentium Dual-Core E5200 2.5GHz 64bit (processor), 6 GB DDR2 SDRAM (RAM), NVIDIA GeForce 9500 GS 512 (video card), SATA 500GB 7200 (Hard Drive) DVDRW-LS (Optical Drive), 10/100/1000 (LAN Connection), Vista Home Premium 64-bit SP1 (Operating System)

Here are some rough guidelines.

Basic: If your primary computer use is e-mail, web surfing, and using standard office programs like word processing , accounting, basically text programs then you want to look at these components

Most any computer will work for you. The real issue is value for money. Dual core processor is the most you would need and a single core will work fine, 1-2 GB of Ram, video and audio should be built into motherboard and a 32bit operating system XP or Vista. You should expect to pay: \$350 - \$400 and \$500+ for package with monitor

Multimedia: If you using your computer to view video, edit photos, listen to or edit music you will need to step up your power a bit.

Look for a dual – core processor, at least 2GB of RAM. 3 GB would give you more room to grow. If it does not come with more than 2 GB ask about the number of RAM slots in the motherboard and how big a memory stick each will allow. Make sure you have an upgrade path, RAM is cheap. As to the Video Card you are not overtaxing an integrated video chip but if you are planning on editing video you will want to have a separate video card. Hard Drive space will be the most important thing to look for; At least 500 GB but consider larger and it should also be a 7200rpm drive. Keep in mind, however, that you will be able to add an external drive of 1000GB (1 Terabyte) for \$150 or less. An external drive connects through your USB port, looks like a regular drive to your computer and, I think, is a better option for long term storage of important files, irreplaceable photos, songs, and video. Being external you can easily take it with you or lock it up in a vault when it is not in use. Most computers also have at least one space for an additional internal hard drive which would be a little less expensive if you can install it yourself but more expensive if you have to pay someone to put it in. You'll want a good DVD optical and an XP Professional or Vista Home Premium or Business OS. Your cost should be \$450 - \$600 plus a monitor and you can easily spend \$1000 with upgrades.

If you are looking for an **Entertainment Center Computer** you will want to look for the same as a multimedia with these additions or replacements.

You will want a built in TV tuner with a personal video recorder capability. You will need a separate video card with at least 512 MB of memory on it. You should choose a video card with a DVI and HDMI connection to a TV or monitor for your tuner card. If quality sound is important, you might want to consider a 7.1 channel separate audio card for your system. Also pay attention to your LAN connection, look for a 1000 MB LAN card or a “Draft N” wireless card built in. This will allow you to keep large files like movies moving from your Internet connection or other computer to your entertainment center. You might want to also look into a upgraded speaker system to match your audio capability As to OS, get Vista Premium or Ultimate because that has the software that used to be called Media Center in Windows XP that will make your computer look and act more like a DVR or Cable box than a computer. Expect to pay at least \$700 for this system and \$1200 will get you a powerful, versatile box.

If you are looking for a **Gaming System** you probably don't need my advice because Gamers know as much as I do about what they need. But if you are shopping for a Gamer rather than being one yourself ...

you want to look for the 64 bit Quad Core Processor, the system with most RAM in it or the ability to add some to bring you up to at least 6GB. You want a Video Card with at least 512 MB of RAM built in and a separate audio card and speaker system. In a hard drive you want a 7200 rpm drive. With a system like this also pay attention to the cooling system and power supply, all of these components build up heat and suck power. At this level you also want a 64bit Vista operating system. You are building on the requirements of the multimedia or entertainment unit with these specs so take a look at those as well. Some may not apply but most will. Expect to pay \$1300 - \$1800 for this system.

If you are considering a "build your own" system or having someone build a 'white box' system only do so if your objective is to pick (or have someone pick) the very best components . Do not expect to save money. Those days are pretty much over. Computers have become such a commodity that you can't build one for less than you can buy one. But building from scratch does allow you to get a system with no weak components.

Of course, if you have a Tech Guy contract it includes consulting on choosing a computer or just 'remodeling' the one you have, give me a call.

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