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The lowdown on high-tech terms

By Edward C. Baig, USA TODAY

Don't know megapixels from megabytes? Bewildered by RSS, USB and other alphabet-soup terms? Join the club. The tech world is littered with jargon. Here's a primer to demystify some of the gobbledegook you might encounter on shopping trips.



The Motorola PEBL cellphone features bluetooth technology.

Motorola

Computers

Let's begin with the itty **bit** (short for **binary digit**), the tiniest unit of information handled by a PC. Eight bits make up a **byte**, which typically represents a letter or a digit. You'll see measurements in **kilobytes** (1,024 bytes), **megabytes** (1,048,576 bytes) and **gigabytes** (1,073,741,824 bytes). The more gigabytes of storage a computer has, the better.

Gigahertz and **megahertz** measure **clock speeds** that tell how fast a computer's **processor**, or **CPU**, operates. One megahertz (MHz) means the computer is humming along at 1 million cycles a second; one gigahertz (GHz) means 1 billion cycles a second. A faster processor generally indicates a more powerful system.

But not always. Many factors influence performance. **Memory** might be the most important. This is usually expressed in **RAM** (random access memory). It refers to the supply of memory generally available for the programs on your system to use.

With monitors, PC buyers have essentially two options. Older but cheaper **CRTs** (cathode-ray tubes) have the widest viewing angles and excellent color reproduction. But they're bulky. That's why lots of folks favor more aesthetically pleasing flat-panel **LCDs** (liquid crystal displays).

PCs have many ports or connectors. Among the most common: **USB** (Universal Serial Bus). It's an easy way to connect digital cameras, music players, printers, keyboards and other devices.

Another increasingly common speedy connector is known by multiple names: **1394**, **FireWire** and **i.Link**. It's used to connect cameras, music players and other devices to a PC.

An **Ethernet** port for connecting a PC to a **broadband DSL** or **cable modem** has become a standard way to access the Net at high speeds. One end of an Ethernet cable resembles a bigger version of the connector that's used to plug a phone into a wall jack.

Going wireless

Many folks want to connect to the Web wirelessly. That's where **Wi-Fi**, or **wireless fidelity**, comes in. It lets you surf around the house or office and in parks, coffeehouses and airports. Computers with built-in Wi-Fi capability or a separate Wi-Fi card must be fairly close to a Wi-Fi **hot spot**. At home, you can set up a Wi-Fi network using a **wireless access point** or **router**.

Bluetooth

(bloo tooth) *N.* A technology that gets its name from a 10th century Danish monarch, lets you wirelessly connect various gadgets — say, cellphones with headphones — at a range of up to about 30 feet. Bluetooth is showing up in cars, computers, keyboards, mice, PDAs, printers and elsewhere. Not all Bluetooth devices can talk to others; they must share the same profile to do so.

When geeks talk about Wi-Fi, they are referring to **802.11** standards designating the speeds and radio frequencies at which these networks operate. The common **802.11b** operates at 2.4 GHz (the same as some cordless phones and microwaves) and has a theoretical maximum speed of 11 megabits per second (mbps), similar to Ethernet's top speed of 10 mbps.

The **802.11g** standard also operates over 2.4 GHz. But it's faster; its top speed is 54 mbps. An emerging technology called **MIMO** (multiple input, multiple output) vastly extends a network's range.

Jargon has come to saturate another form of wireless: mobile phones. Common cellular technologies include **CDMA** (code division multiple access) and **GSM** (global system for mobile communications). GSM is a worldwide standard; with the right plan, you can operate phones overseas.

You'll also see the term **GSM/GPRS**. GPRS, which stands for general packet radio service, is a standard for transmitting data.

Carriers are adopting **3G**, or **third-generation**, networks. These deliver broadband speeds to wireless phones, promising faster browsing, higher-quality video and streaming music.

To prevent you from getting lost, some phones have added **GPS** capabilities. The global-positioning system satellites are the backbone for portable navigation systems.

Snazzy TV

Digital TVs provide sharper images than those of older **analog** TVs. But only **HDTV** (high-definition TV) sits atop the digital food chain. It produces the finest pictures and sound. HDTVs meet industry guidelines known as **1080i** (interlaced), **1080p** (progressive) and **720p**. Those numbers refer to lines of **pixels** or picture elements — the tiny dots that determine resolution. Interlaced and progressive refer to how those lines are displayed on the screen.

HDTVs have built-in HD tuners or decoders to receive the broadcasts. Monitors labeled **HDTV-ready** require separate HD tuners. Lower-quality digital TVs are called **SDTV** (standard-definition TV) or **EDTV** (enhanced-definition TV).

Movies shown in HD are typically displayed in cinematic widescreen. A 16:9 **aspect ratio** refers to the ratio of the width to the height of a picture. Most analog (and some HDTV) fare is shown in the more squarish 4:3 aspect ratio.

You'll also find several types of TV monitors, including flat-panel **LCDs** and **plasma** screens you can hang on a wall. **Microdisplay** TVs include **LCD rear projection**, **DLP** (digital light processing) and **LcoS** (liquid crystal on silicon).

Digital cable-ready TVs have **PC Card**-type slots for **CableCards**, which eliminate the need for a separate set-top tuner.

Photos and music

Megapixel is a term overused by marketers and little understood by consumers. A digital camera with more megapixels isn't always better; lens quality and other factors matter. Megapixels measure how much data a camera's **image sensor** (often called a **CCD**) captures. More megapixels let you print a larger picture without losing quality.

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Photos are captured in file formats, typically **JPEG (.jpg)**, but also **TIFF (.tif)** and **RAW**. Images can be stored on memory cards, commonly: **CompactFlash (CF)**; **Secure Digital (SD)**; **MultiMediaCard (MMC)**; **Memory Stick**; and **xD** (extreme digital picture card)

Storage capacities and card sizes vary among the memory cards. You might favor a camera that handles a particular card because other devices you own include a slot for that memory type.

Digital music players fall into two main camps: **flash memory** players and **hard-drive** models. The hard-drive types offer more storage but are usually larger and cost more. Flash memory players are smaller and cheaper but can't hold as many tunes.

MP3 has become synonymous with downloaded music or tunes imported from CDs. An acronym for **MPEG Audio Layer3**, MP3 is a compressed audio format. Other file formats include Microsoft-backed **WMA** (Windows Media Audio) and **AAC** (advanced audio coding), the flavor at the core of Apple's iTunes.

The formats surrounding DVD recordings are more muddled. They include incompatible disks known as **DVD-R** and **DVD+R** (plus R), along with **DVD-RW**, **+RW** and **DVD-RAM**. Dual-layer and even triple-layer disks that offer extra capacity are emerging. Meanwhile, a battle rages to define the standard for the new high-definition DVD recording format. Will it be **Blu-ray** or **HD DVD**?

Once you master all this jargon, you can write a **blog** (Web log) about how tech-savvy you've become. The method of sharing your blog and reading other Web news feeds is handled through **RSS—Really Simple Syndication**.

RST—Really Simple Technology — might take a little longer.

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