



# MAC FACTS

from

## Mac Help Desk

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**Apple Consultants Network**  
**An Apple Solutions Expert Company**

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### *A Message from Dru*

It's a Party and You're invited:

#### **Apple to Kick Off "100 Minutes of Jaguar" at All 35 Apple Retail Stores on Friday, August 23**

**What:** "100 Minutes of Jaguar"; a kick off event for Mac® OS X v. 10.2 sales with free gifts, great savings, theater demos and a chance to win a Mac®

**When:** Friday, August 23, 10:20 p.m. to midnight

**Where:** All 35 Apple® retail stores, located in 17 states in the U.S. See [www.apple.com/retail](http://www.apple.com/retail) for complete list of store locations.

In the Dallas area, the Apple store is located in the 'Shops at Willow Bend' Mall. West Park Blvd and the Dallas North Tollway.

See more about Jaguar in 'Newslines'

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Interested in Final Cut Pro, Apple's incredible video editing software? How's about the Apple ][ (that's Apple 2)? Well you're in luck. The Apple Corps of Dallas, the nation's oldest Apple/Mac User Group has added these two new Special Interest Groups (SIGs) to their lineup starting in September. Go to <http://www.acd.org> for more info.

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The Net is Alive with the Sound of...Dru! Didja know that I now have 2 shows on the air? [Well, the Net actually] On Tuesday evenings at 7 pm, I have "Mac Help Radio" and on Sunday afternoon at 1 pm I have "The Wellness Hour". You can get to the shows (to listen or get more information) via your internet browser at <http://www.mactvnetwork.com/radio/tuesday> and <http://www.mactvnetwork.com/radio/sunday>. Listen, join in, have fun!

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Need a job? Want to earn a little cash to supplement your income? Part time? Full time? *The Richman Group* is hiring. Call me for details - 972-783-9790. Health, Wealth, Vim, Vigor, and Vitality can be Yours!



## Can the Digital Hub Survive Hollywood?

by Cory Doctorow

*The Most Important Rule: Build Products People Want.*

iMovie, iPod, iPhoto, iTunes, television tuner-cards, composite video out, CD burners on laptops, flat-screen iMacs, Cinema displays, and QuickTime... seemingly every quarter, Apple ships another drool-worthy technology that further erodes the tenuous division between "entertainment devices" and computers.

Since 1979, Apple has broken every rule in business. It shipped a personal computer at a time when computers were million-dollar playthings of universities, insurance companies, and defense contractors. It introduced a commercial graphical interface to a market filled with power-nerds who sneered at the ridiculous idea of "friendly" computers. It brought video to the desktop, wireless to the home, and the biggest, sexiest titanium notebook ever made to laps everywhere. It put open-source Unix underneath its legendarily easy-to-use operating system!

Apple has broken every rule except the most important one: build what your customers want to buy. Since 1979, Apple has achieved its every success by selling the stuff that people like you and I want to buy. Since 1979, Apple's failures (Remember the Apple III? The Newton? The Cube?) have been products that simply didn't sell well enough.

Today, Apple - and every other technology company - is in danger of losing its right to make any device that it thinks it can sell. Hollywood, panicked at the thought of unauthorized distribution of movies captured from digital television sets, is calling for a new law that would give it ultimate control over the design of every device capable of handling digital television signals.

This is bad news for any company that wants to collapse the distinction between entertainment devices and computers. Digital hub projects are exciting, but they're also squarely in Hollywood's cross-hairs. The more your Mac acts like a television device the more your Mac will be subject to regulations that are meant to control "only" digital television (DTV) devices.

We've seen some coarse attempts to reign in technical innovation from the likes of Senator Fritz Hollings (D-SC), whose Consumer Broadband and Digital Television Promotion Act (CBDTPA) is also known as the "Consume, But Don't Try Programming Anything" bill. There's a far more insidious threat to your rights to buy a Mac that does what you want it to do: regulations intended to speed the adoption of digital television are in the offing, regulations that will have a disastrous effect on Apple and every other computer manufacturer.

**Digital Television and Hollywood** - Here comes digital television. Digital television uses a lot less radio spectrum than the analog TV system we use today. If all broadcasters were to switch to digital, the U.S. government could auction off the freed-up spectrum for billions of dollars. Understandably, the FCC is big on getting America switched over to digital, so much so that they've ordered all analog broadcasts to cease in 2006, provided that 85 percent of Americans have bought digital sets.

Hollywood says that digital television will make it too easy to make digital copies of its broadcast movies and redistribute them over the Internet. Never mind that digital TV signals eat up to a whopping 19.4 megabits of data per second, well beyond the ability of any current Internet user to redistribute without compressing the video to the point where it's indistinguishable from analog shows captured with a TV card. Never mind that you can always hook up a capture card to the analog output of a digital set and make a near-perfect copy.

Never mind reality. In Hollywood's paranoid fantasy, digital television plus Internet equals total and immediate "Napsterization" of every movie shown on TV. So the Motion Picture Association of America (MPAA) has threatened to withhold its movies from digital television unless Something Is Done.

This has given the feds The Fear. If there aren't any movies on digital television (the argument goes), no one will buy a digital TV set, and if no one buys a digital TV, the feds won't be able to sell off all that freed-up spectrum and turn into budget-time heroes. So Something Will Be Done.

**Perfect Control Makes Imperfect Devices** - In November of 2001, at the request of Representative Billy Tauzin (R-LA), the MPAA's Copy Protection Technical Working Group spun off a sub-group, called the Broadcast Protection Discussion Group (BPDG). It's an inter-industry group with representatives from the movie studios, consumer electronics companies, computer companies, broadcasters, and cable and satellite operators. The BPDG's job was to consult with all these industries and draft a proposal that would set out what kinds of technologies would be legal for use in conjunction with digital television.

The BPDG started off by ratifying two principles:

1. All digital TV technologies must be "tamper resistant." That means that they need to be engineered to frustrate end-users' attempts to modify them. Under this rule, open-source digital television components will be illegal, since open-source software (like Darwin, the system that underpins Mac OS X) is designed to be modified by end-users.
2. To be legal, a digital television device must incorporate only approved recording and output technologies. Some system will be devised to green-light technologies that won't "compromise" the programming that they interact with, and if you want to build a digital TV device, you'll need to draw its recording and output components exclusively from the list of approved technologies.

**Hollywood Never Gets Technology** - The entertainment industry has a rotten track record when it comes to assessing the impact of new technologies on its bottom line. Every new media technology that's come down the pipe has been the subject of entertainment industry lawsuits over its right to exist: from player pianos to the radio to the VCR to the MP3 format and the digital video recorder, the industry has attempted to convince the courts to ban or neuter every new entertainment technology.

In 1984, Hollywood lost its suit to keep Sony's Betamax VCR off the market. The Betamax, Hollywood argued, would kill the movie industry. In the words of MPAA president Jack Valenti, the VCR was to the American film industry "as the Boston Strangler is to the woman home alone." The most important thing to emerge from that case was the "Betamax doctrine," the legal principle that a media technology is legal, even if it can be used to infringe copyright, provided that it has substantial non-infringing uses.

That means that even though a VCR can be used to duplicate and resell commercial video cassettes illegally, it's still legal to manufacture VCRs, because you can also use them to time-shift your favorite programs, a use that is legal. That's why the iPod exists: You can create MP3s legally by

ripping your lawfully acquired CDs with iTunes. That you can also illegally download MP3s from file-sharing networks is irrelevant: the iPod has a substantial, non-infringing use.

The BPDG proposal compromises the Betamax Doctrine. Under Betamax, Apple can make any device it wants to, without having to design it so that it can never be used to infringe - it is enough that some of the uses for the device are non-infringing. Crowbar manufacturers aren't required to design their tools so that they can never be used to break into houses - it's enough that crowbars have some lawful uses. It's impossible to make really good, general-purpose tools that can't ever be used illegally - Betamax lets manufacturers off that impossible hook.

**A Veto Over New Technology** - Consumer electronics and IT companies were willing to go along with the idea that devices should be tamper-resistant, and that there should be some criteria for deciding which outputs and recording methods would be permitted. Each company had its own reasons for participating.

Two groups now have proprietary copy-prevention technology they want to build a market for: Hitachi, Intel, Matsushita, Sony, and Toshiba are members of the "5C" group, and Intel, IBM, Matsushita (Panasonic), and Toshiba are members of the "4C" group. Since the 4C and 5C technologies have been blessed by Hollywood's representatives to the BPDG, a mandated BPDG standard will make it illegal to sell less-restrictive competing products, and so by participating in BPDG, the 4C and 5C companies could shut out the competition, guaranteeing a royalty on every DTV device sold.

Other companies, like Philips and Microsoft, have their own copy-prevention technologies and were anxious that if they didn't play ball with the BPDG, it would be illegal for them to sell DTV devices that incorporate their technology.

Finally, the computer companies became involved because they saw the BPDG as a way of setting out an objective standard that they could follow, and in so doing, be sure that they wouldn't be sued into bankruptcy if their customers figured out how to use their technology in ways that Hollywood disapproved of. But then Hollywood dropped its bomb. When it came time to setting out the actual criteria for DTV technology, Hollywood announced that it would consider only one proposal: new DTV technology would be legal only if three major movie studios approved it.

The tech companies at the BPDG had been there with the understanding that the BPDG's job was to establish a set of objective criteria for new technology. Those criteria might be restrictive, but at the very least, tech companies would know where they stood when they were planning new gizmos.

Hollywood suckered the tech companies in with this promise and then sprang the trap. No, you won't get a set of objective criteria out of us. From now on, every technology company with a new product will have to come to us on its knees and beg for our approval. We can't tell you what technology we're looking for, but we'll know it when we see it. That's the "standard" we're writing here: we'll know it when we see it.

**The Endgame** - The BPDG co-chairs submitted their final report to Rep. Tauzin, the Congressman who had asked for the BPDG to be formed at the beginning. The report was short and sweet, but attached to it was a half-inch thick collection of dissenting opinions from the likes of the Electronic Frontier Foundation, the Free Software Foundation, and Digital Consumer, as well as commercial interests like Philips, Sharp, Zenith, Thomson, and Microsoft.

Missing from the report were objections from any computer manufacturer. The information technology industry took its lead from Intel, which has an interest in the 5C and 4C technologies, and is quite pleased at the idea of a BPDG mandate becoming law. Apple, which has previously been outspoken on the subject of a free technology market, was silent, as were IBM, HP, Dell,

Gateway, and all the other general-purpose computing companies who have the most to lose from a BPDG mandate.

**The Future** - It's bleak. On August 8, 2002, FCC Chairman Michael Powell announced that the FCC would open proceedings to mandate the BPDG proposal, turning this "standard" into the law of the land. Without any computer companies willing to carry the banner for the freedom to innovate, to make Betamax-legal technology without oversight from the film industry, the BPDG mandate will almost certainly come to pass.

The BPDG world will be extremely hostile to the digital hub concept. Think about a high-definition digital video suite of iMovie tools. These tools will exist to capture, store, and manipulate high-definition video streams - streams from camcorders, TV sources, and removable media like DVDs. They might support cable-in or a DTV antenna so that your digital hub doesn't require a stand-alone TV. And they'll need a DVD burner/reader and drivers.

Incorporating a tuner and a DVD player/burner into a Mac is just the kind of thing that scares the daylight out of the BPDG. If you expect to be able to play your existing DVDs on your Mac, let alone record shows that you get off cable or an antenna and play them on your TV set, think again.

Hollywood wants to be sure that you can't do anything with video from TV or cable without the film studios' permission. So while you may want to be able to stick a DVD full of home movies into your Mac and edit a five minute short for your distant relatives to download from your iDisk, Hollywood wants to be sure you won't be able to do the same with that episode of Buffy you recorded from the TV. When your distant relatives download your home movies to their computers and burn them to DVD, Hollywood wants to be sure that what they're burning is really a home movie and not a Law & Order episode that slipped through the cracks and made it onto a Web site.

How can this be accomplished? Once the video is on a DVD, a Web site, or your hard disk, neither your Mac nor your TV can tell the difference between Buffy and your holiday videos. There's no easy answer, and lucky for us, the Betamax doctrine says that just because someone might do something illegal with El Gato's EyeTV or a real iTiVo, it doesn't mean you can't have one. It's enough that there are legal things that can be done with the technology.

But absent any way to achieve Hollywood-grade perfect control over the technology's use, the BPDG simply won't let it come into being. It will be illegal to manufacture this device.

Hollywood's approval of an iTiVo will be contingent on its "tamper resistance" (so long, Mac OS X, hello again, Mac OS 9!) and its operating system will have to include a facility for marking files that can't be streamed over an AirPort card or Ethernet port (forget sitting in your bedroom watching video stored on a server in your living room!). The entire operating system and box will have to be redesigned to prevent unauthorized copying of Hollywood movies, even if that means your own digital video data can't be backed up, sent to a friend, or accessed remotely.

If the entertainment industry had gotten its way, we wouldn't have radios, TVs, VCRs, MP3s, or DVRs. Business Week called Hollywood "some of the most change-resistant companies in the world." No one should be in charge of what innovation is permitted, especially not the technophobes of the silver screen.

**A Glimmer of Hope** - For all the likelihood of a BPDG mandate becoming law, it's by no means inevitable.

A technology company - Apple, IBM, AMD, Gateway, Dell, HP - could stall the process. All it would take is a public statement of opposition to the BPDG, a breaking of ranks with Intel and the other companies who are seeking to secure a market for their copy-prevention technologies, and the

FCC would be confronted with infinitely more uncertainty about a BPDG mandate than it currently faces.

There are already a couple million DTV devices in the market that will be nearly impossible to accommodate under the BPDG mandate; another 12 months and there will be 10 million or more, and it will be too late to try to lock down DTV without permanently alienating DTV's most important customers.

Apple has been a strong champion of its customers' right to buy and use innovative technologies in innovative ways. If any company has the rule-breaking courage to stand up to Hollywood's bullying, it's Apple. If we're very lucky, Apple will agree. One press conference where Steve Jobs gives the MPAA what-for would likely derail the FCC's consideration of the BPDG process - maybe forever.

Mac users are fiercely loyal to the Macintosh, and Apple has always responded with new Macs with innovative features. Let's hope that they won't forget us now that there's pending legislation that could hamstring both Apple's entire digital hub strategy and the ways we already use our Macs with tools like iMovie, iDVD, and the SuperDrive.

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## NEWSLINE

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# Jaguar

Referred to by its code name, Jaguar, Mac OS X v10.2 is a different breed of operating system. Jaguar combines the rock-solid reliability of UNIX with the ease of use of Macintosh. This version of Mac OS X is as innovative as the computers that run it. And whether you're a Mac user who's upgrading, a Windows user who's looking at switching to the Mac or a UNIX user who loves the idea of using key applications like Microsoft Office on top of a state-of-the art BSD UNIX implementation, this is the OS for you.

Mac OS X v10.2 is loaded with over 150 compelling new features - like an instant messaging client that's compatible with AOL's, an enhanced Mail application that lets you filter out junk mail, an address book that's an activity center for all your contacts, and a full-featured search engine so useful that you'll soon feel lost without it.

Mac OS X v10.2 also features QuickTime 6, the next-generation multimedia standard with support for MPEG-4 video. Quartz Extreme, the hardware accelerated, fully composited graphics system, gives it souped-up 2D and 3D capabilities. Plus a significantly enhanced Finder with spring-loaded folders. Rendezvous, a revolutionary technology that lets you create an instant network of

computers and peripheral devices. Not to mention a host of features and capabilities that will impress hardcore Unix users.

For more info on Jaguar, go to <http://www.apple.com/macosex>

Jaguar will be available on Saturday August 24 for \$129.00.

## Apple Enhances Consumer Desktop Lines

eMac With Combo & SuperDrive; Flat-Panel iMacs at Lower Prices

Continuing to offer the industry's best digital lifestyle computers, Apple® today enhanced its popular eMac™ and iMac® lines for home and schools. eMac, the most affordable G4-based computer ever, now comes in two models: one featuring a Combo DVD-ROM/CD-RW drive for \$1,099 (US), the same price as the prior CD-RW equipped model; and one featuring Apple's SuperDrive™ for burning DVDs and CDs for just \$1,499 (US), the industry's lowest price for a computer with DVD-burning capability. Making its popular flat-panel iMac even more affordable, Apple is also lowering the prices of the CD-RW and the Combo DVD-ROM/CD-RW models \$100 (US) each, to \$1,299 (US) and \$1,499 (US) respectively.

“Now, for the first time, users can burn their own custom DVDs on an under-\$1,500 computer,” said Steve Jobs, Apple's CEO. “Our amazing SuperDrive and award-winning iMovie and iDVD applications ushered in the era of personal DVD burning, and this groundbreaking low price point will further reinforce Apple's lead in this rapidly-growing market segment.”

At \$1,499 (US), the new SuperDrive-equipped eMac model is the industry's lowest cost way to author and burn custom DVDs that play in most consumer DVD players. Apple's award-winning iMovie™ and iDVD applications come pre-installed on the new eMac, enabling users to edit their video and create and burn their own custom DVDs.

In addition to being the most affordable PowerPC G4 system ever, the popular eMac features a stunning 17-inch flat CRT in a remarkably compact design that is 8 mm less deep than the original 15-inch iMac. The innovative flat-panel iMac features a stunning 17-inch widescreen or 15-inch flat screen LCD that appears to float in mid-air, allowing users to effortlessly adjust its height or angle with just a touch.

Both iMac and eMac offer 700 MHz and 800 MHz PowerPC G4 processors with Velocity Engine™ and include Apple's industry-leading suite of digital lifestyle applications including iPhoto™ for managing and sharing digital photographs, iMovie for creating digital movies and iTunes™ for creating a digital music library. Models with the SuperDrive include Apple's iDVD software. With five USB ports and two FireWire ports, both iMac and eMac offer easy plug-and-play connections to popular peripherals such as digital video camcorders, digital still cameras, printers and scanners.

### Pricing & Availability

iMac desktops are available immediately, the eMac with Combo drive is available this week and the eMac with SuperDrive is expected to be available by the end of this month through the Apple Store® ([www.apple.com](http://www.apple.com)), at Apple's retail stores and Apple Authorized Resellers.

The 17-inch widescreen flat-panel iMac, for a suggested retail price of \$1,999 (US), includes:

- an 800 MHz PowerPC G4 processor with Velocity Engine;
- SuperDrive DVD-R/CD-RW optical drive;

- NVIDIA GeForce4 MX with 32MB video memory;
- 256MB of system memory;
- 80GB Ultra ATA hard drive; and
- Apple Pro Speakers.

The 15-inch flat screen iMac, for a suggested retail price of \$1,799 (US), includes:

- 800 MHz PowerPC G4 processor with Velocity Engine;
- SuperDrive DVD-R/CD-RW optical drive;
- NVIDIA GeForce2 MX with 32MB video memory;
- 256MB of system memory;
- 60GB Ultra ATA hard drive; and
- Apple Pro Speakers.

The 15-inch flat screen iMac, for a suggested retail price of \$1,499 (US), includes:

- 700 MHz PowerPC G4 processor with Velocity Engine;
- Combo DVD-ROM/CD-RW optical drive;
- NVIDIA GeForce2 MX with 32MB video memory;
- 256MB of system memory; and
- 40GB Ultra ATA hard drive; and
- Apple Pro Speakers.

The 15-inch flat screen iMac, for a suggested retail price of \$1,299 (US), includes:

- 700 MHz PowerPC G4 processor with Velocity Engine;
- CD-RW optical drive;
- NVIDIA GeForce2 MX with 32MB video memory;
- 128MB of system memory; and
- 40GB Ultra ATA hard drive.

The 17-inch flat CRT eMac, for a suggested retail price of \$1,499 (US) includes:

- 800 MHz PowerPC G4 processor;
- SuperDrive DVD-R/CD-RW optical drive;
- NVIDIA GeForce2 MX with 32MB video memory;
- 256MB of system memory; and
- 60GB ATA Hard Drive.

The 17-inch flat CRT eMac, for a suggested retail price of \$1,099 (US) includes:

- 700 MHz PowerPC G4 processor;
- Combo DVD-ROM/CD-RW optical drive;
- NVIDIA GeForce2 MX with 32MB video memory;
- 128MB of system memory; and
- 40GB ATA Hard Drive.

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## Apple Unveils Dual-Processor Power Macs Starting at \$1,699

Fast Xserve Architecture, DDR Memory & Pre-loaded Mac OS X v10.2 “Jaguar”

Apple® today unveiled an all new Power Mac G4 line featuring dual PowerPC G4 processors in every model, starting at just \$1,699 (US). With dual 1.25 GHz, dual 1 GHz and dual 867 MHz PowerPC G4 processors, the new Xserve™ high-performance architecture with support for up to 2GB of Double Data Rate (DDR) memory at up to 333 MHz, the industry’s first ATI Radeon 9000 Pro graphics card and an enhanced enclosure with increased storage up to nearly half a terabyte, the new Power Macs are the fastest desktop workstations for creative professionals.



The new all dual processor Power Mac® G4 line also ships with Apple's new Mac® OS X version 10.2 "Jaguar" pre-installed, offering more than 150 amazing new features and applications. Taking advantage of "Jaguar's" advanced UNIX-based architecture and symmetric multiprocessing capabilities, the Power Mac G4 line delivers over 18 gigaflops (18 billion floating point operations per second), and runs professional applications like Adobe Photoshop up to 90 percent faster than a 2.53 GHz Pentium 4-based PC.\*

"You can now get a dual-processor G4 system with Xserve architecture and DDR memory, pre-loaded with 'Jaguar' for just \$1,699," said Steve Jobs, Apple's CEO. "These are the fastest Macs ever, and 'Jaguar' really makes the dual processors sing."

Bruce Chizen, president and CEO of Adobe, added, "These new Power Macs run Adobe Photoshop faster than any PC we've seen."

In addition to the super fast dual 1.25 GHz model, the new line also includes models with dual 1 GHz and dual 867 MHz processors; all with Velocity Engine and up to 2MB of advanced DDR backside level 3 cache per processor to further boost performance. All models also include next generation graphics technologies from NVIDIA and ATI, including the new ATI Radeon 9000 Pro with 64MB of DDR SDRAM, with a quad-pipe 3D engine and Smartshader technology for cinematic effects and realism. The combination of powerful graphic cards and "Jaguar's" groundbreaking Quartz™ Extreme compositor, provides customers with advanced workstation graphics capabilities that are light years ahead of any other platform. In addition, all Power Mac G4 models now include one ADC and one DVI port allowing users to drive two Apple flat-panel displays simultaneously.

The new Power Mac G4 line offers enhancements to its award-winning easy-access enclosure including four internal drive bays, each capable of hosting up to a 120GB ATA/100 drive, for a total of nearly a half a terabyte of internal storage; and two optical drive bays which can each hold a CD-RW, Combo or SuperDrive™ for burning DVDs and CDs.

"Jaguar" offers Power Mac G4 customers amazing new features and applications including a new Mail application designed to eliminate junk mail, iChat AIM-compatible instant messenger, a system-wide Address Book, Inkwell handwriting recognition, QuickTime® 6 with MPEG-4, improved Universal Access, an enhanced Finder™, Sherlock® 3 with Internet Services and Rendezvous™, Apple's revolutionary home networking technology.

The three-model Power Mac G4 line features:

a dual 867 MHz or a dual 1 GHz PowerPC G4 processor with Velocity Engine™ and 1MB backside L3 cache, and dual 1.25 GHz PowerPC G4 processor with Velocity Engine and 2MB of backside L3 cache;

ATI Radeon 9000 Pro with 64MB DDR SDRAM or NVIDIA GeForce4 MX with 32MB DDR SDRAM graphics and dual display support in all models;

support for 256 or 512MB of 266 MHz or 333 MHz DDR SDRAM, with support for up to 2GB; four 3.5-inch hard disk drive expansion bays with either a 60GB, 80GB or 120GB Ultra ATA/100 hard drive running at 7200 rpm;

two external expansion drive bays, including support for a SuperDrive DVD-R/CD-RW and/or Combo DVD-ROM/CD-RW optical drive;

five slots, including four open high-performance 64 bit 33 MHz PCI slots and an 4x AGP slot for graphics;

two 400-Mbps FireWire ports and four 12-Mbps USB ports;

10/100/1000BASE-T Ethernet built-in on the motherboard and AirPort® 802.11 wireless network ready;

a collection of productivity and professional software titles including Lemke Software Graphic Converter, Omni Group's OmniGraffle and OmniOutliner, Caffeine Software PixelNance, and Ambrosia Software Snapz Pro X; in addition to Apple's suite of Digital Lifestyle applications including iMovie™, iPhoto™, iTunes™ and iDVD (requires SuperDrive);

and Mac OS X version 10.2 "Jaguar," Apple's next-generation operating system as the startup operating system, as well as Mac OS 9.2.2.

### **Pricing & Availability**

The Power Mac dual 867 MHz and dual 1 GHz processor models are available this week through the online Apple Store® (www.apple.com), at Apple Retail Stores and through Apple Authorized Resellers. The dual 1.25 GHz processor Power Mac G4 is expected to be available in the second half of September.

The dual 867 MHz Power Mac G4, for a suggested retail price of \$1,699 (US), includes:

- 256K on-chip level 2 cache and 1MB of DDR SRAM backside level 3 cache per processor;
- 256MB of DDR SDRAM;
- NVIDIA GeForce4 MX with 32MB DDR SDRAM in 4x AGP slot;
- 60GB Ultra ATA/100 7200 rpm hard disk drive; and
- Combo DVD-ROM/CR-RW optical drive.

The dual 1 GHz Power Mac G4, for a suggested retail price of \$2,499 (US), includes:

- 256K on-chip level 2 cache and 1MB of DDR SRAM backside level 3 cache per processor;
- 256MB of DDR DRAM memory;
- ATI Radeon 9000 Pro graphics card with 64MB DDR SDRAM in 4x AGP slot;
- 80GB Ultra ATA/100 7200 rpm hard disk drive; and
- SuperDrive DVD-R/CD-RW optical drive.

The dual 1.25 GHz Power Mac G4, for a suggested retail price of \$3,299 (US), includes:

- 256K on-chip level 2 cache and 2MB of DDR SRAM backside level 3 cache per processor;
- 512MB of DDR SDRAM memory;
- ATI Radeon 9000 Pro graphics card with 64MB DDR SDRAM in 4x AGP slot;
- 120GB Ultra ATA/100 7200 rpm hard disk drive; and
- SuperDrive DVD-R/CD-RW optical drive.

The Power Mac G4 is available in build-to-order configurations through The Apple Store (www.apple.com). Options include a second DVD-ROM/CD-RW Combo drive, up to 2GB of DDR SDRAM, up to .48 terabytes of ATA storage, up to 288GB Ultra160 SCSI storage, AirPort Base Station and AirPort Card, Harman Kardon iSub and SoundSticks, and Apple Pro Speakers. Standard 4.7GB DVD-R blank discs are available from The Apple Store (www.apple.com) in five-packs for a suggested retail price of \$24.95 (US). For a list of compatible DVD players, visit [www.apple.com/dvd/compatibility](http://www.apple.com/dvd/compatibility).

Mac OS X v10.2 "Jaguar" will be publicly available August 24 for a suggested retail price of \$129 (US).

\* Based on commonly used operations in Adobe Photoshop 7.0.

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Thanks for taking the time to read this month's newsletter. Hope you enjoyed it. If you have any comments or suggestions for stories (or would even like to write a story - hint, hint), please send them to me at <mailto:machelpdesk@attbi.com>. Feel free to share this newsletter with a friend. The newsletter archives are located at <http://www.machelpdesk.com/page6a.html>. Y'all come back now, y'hear!