





## read me first

pple only shows off stuff that's going to ship", boasted Apple UK's PR manager at the launch of the latest system upgrade (see page 51) and the new slim PowerBook G3 (page 50). His shipping forecast referred to a couple of the new features Apple promises we'll be seeing in the successor to Mac OS 8.6: Multi-user support and a whizzy

new version of the Sherlock search engine (see pages 20-21). Hmm, sounds familiar, I thought.

It was way back in January 1996 that I sat through a rather turgid Macworld Expo keynote in San Francisco. You see, there was no Steve Jobs at the helm back in those days. Instead, we got to watch the less charismatic (head of US Salezzzz) showcase new stuff such as the Apple Media Tool 2.0 multimedia author (remember that?) and some great new beige boxes. The morning livened up considerably when Apple's Vito jio came on-stage to demo parts of the forthcoming Copland operating system (then the "soon-to-be System 8").

Salvaggio showed off several very neat features of Copland. "Oooh...," we all sighed as he showed how in "the near future" we'd be able to configure a single Mac system for multiple users – each with his or her own preferences, font sets, and desktop patterns. "Ahhh...," we exhaled as he opened up the remarkable V-Twin – which could search your files for words and phrases.

for words and phrases.

Every time Apple released a system update after that, I'd shrug it off

I'll wait for Copland and those two new features. Of course, Copland never
showed up and Apple paid for its non-appearance with lost market share,
an \$11 stock price and an operating system found seriously wanting.

We trusted Apple to ship a better OS. We didn't believe for a second
former CEO John Sculley's much-touted notion of a "Knowledge Navigator"

- like a big Palm Pilot with colour flat-panel display, speech recognition,
full-motion video and high-speed broadband data links. Ironically, such
a machine is now entirely possible with P1 plastics, Naturally Speaking
and QuickTime 4.

d QuickTime 4.

So, shouldn't I now be growling or at the very least grumbling
the cheery PR that I'd "seen it all before". Multiple-user Macs...

## Simon Jary, editor-in-chief

V-Twin/Sherlock... You promised this stuff three and a half years ago! Michael Spindler was Apple CEO in those days, for God's sake. Blackburn Rovers weren't just in the Premiership - they were the champions.

Three and a half years is a very long time indeed in computing. And now we're going to get all that old stuff sold to us as something new this autumn Forget streaming, I should have been steaming.

But no, I wasn't mad. Nowadays, I tend to believe Apple will live up to its promises. Madness, surely... I believed that guff three and a half years ago, and what I have I got to show for it? System 7 with a platinum menu bar.

The difference is Steve Jobs again. The man who at least says that "real artists ship". The much-maligned Steve Jobs, if you watch upcoming TV movie Pirates of Silicon Valley (see page 29). The new Steve Jobs really does believe in keeping both secrets and promises.

Nowadays, it's old rival - and fellow pirate - Bill Gates who can't keep his mouth shut about fantastic future stuff. Just like Apple of old, Microsoft fills its probably ultra-dreary expo keynotes with guaranteed crowd pleasers.

Take Bill's latest vision, the catchily named "digital dashboard". It's John Sculley's Knowledge Navigator all over again, but with enough added fantasy to make it as unlikely as its predecessor was back in 1989. Gates has even been busy positioning Microsoft as a "knowledge

management company".

The digital dashboard would have scrolling stock quotes; queued voice mail and email messages; calendar; weather forecast and traffic information; and customized buttons that link to news service feeds, customer and sales data, and other information. Essentially, it's a personalized desktop portal focused on business intelligence, running on a PDA or cell pho

focused on business intelligence, running on a PDA or cell phone.

Bill sees himself and other business big boys staying in the driving seat through control of such dashboards. Microsoft's journey on "the road ahead" is yet again a proprietary one based around a single driver in an expensive executive motor. Bill's great fear of computing's public transport – the Internet – is once more allayed in his digital daydream.

But dream it will remain for some years – maybe even another three and a half. Today, Apple is finally bringing home those Copland visions, dressed, of course, in its new voguish colours. And now it's Microsoft's turn to strut its stuff on the future-folly fashion parade, modelling all of its emperor's simply fabulous new clothes.









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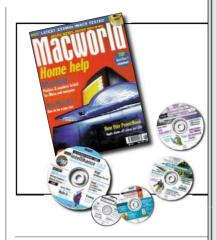
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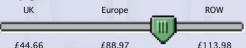
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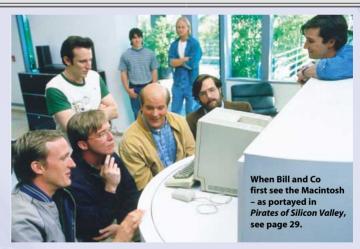
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## Macworld

Demos for Macromedia Generator and Star Wars: The Gungan Frontier are ably supported by all the latest demos, shareware, utilities and updaters. Guided tour courtesy of Vic Lennard...



Install Me Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

■ QuickTime 3.0.2

Many of the demos need this installed. It gives you new versions of QuickTime and the MPEG, VR, Musical Instruments and PowerPlug add-ons



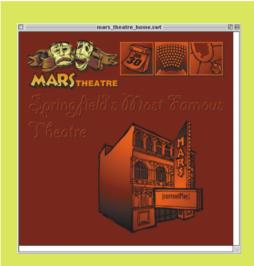
- British Mac OS 8.1 updater
- Update Mac OS 8.0 to this later version.
- Acrobat Reader 4

Install this version to be able to read many of the on-screen manuals

### ■ Also included

A number of useful utilities such as Apple Game Sprockets 1.1.4, Stufflt Expander and DropStuff 4.5 & 5.1.2, InternetConfig2.0 and Apple Appearance.

## **Macromedia Generator**



Macromedia Generator is a tool and server solution for automating and personalizing Web-site graphics. Generator builds Web-site graphics and interactive applications such as headlines, ad banners, maps, calendars, charts, and other live or frequently updated data. Generated graphics can be created on demand or updated at set intervals.

By separating design and content, Generator acts like a "mail merge" for Web graphics. Use Generator Developer's Studio (Flash edition) to design and stage Web graphic templates. Generator Dynamic Graphics Server combines the templates with data from external sources, building live Web-site graphics (as SWF, GIF, GIF89, JPEG, or PNG).

The 45-day trial package here (Power Macintosh-only) includes extensions that allow you to author Generator templates with Flash 3. You must have Flash 3 already installed (provided) to author templates and Mac OS Runtime for Java 2.0 (also provided) is required for installation of the Flash Generator for Power Macintosh.

## **MP3: MPEG Audio Layer III**



Want to try some of the MP3 utilities mentioned in this month's feature? Then here's your chance.

- MacAMP 1.0b7: premier MP3 playback program with good user interface.
- MacAMP Lite 1.5.2: provides an easy-to-use and lightweight interface to play various popular sound formats, including MP3 III, CD Audio and more.
- MPecker Drop Decoder 1.5: automatically converts any MP3 file into an AIFF file, or Sound Designer II file.
- MPecker Encoder 1.0b19: encodes AIFF, Sound Designer II or PCM audio files.
- MPEG Layer3 Player v1.4b2: easy-to-use MP3 player.
- Player 1.7b4: Drag-&-drop MP3 playback.
- SoundApp 2.6.1: plays and convert sound files from a variety of computer platforms and in many different formats, including MP3.

## **Serious Demos**



## **Extensis Suitcase 8 trial**

Suitcase 8 is a collection of powerful font-management utilities that make working with fonts faster and easier than ever before. With Suitcase 8 you can group fonts and open them only when you need them, saving valuable system resources. You can even have Suitcase open fonts automatically when an application is launched.

Other tools in this valuable collection allow you to organize your fonts, prevent font conflicts, view fonts in font menus in WYSIWYG format, and have missing fonts in QuarkXPress documents opened automatically.

The Suitcase 8 collection includes: Suitcase 8, Suitcase 8 XT (an XTension for QuarkXPress), Suitcase 8 MenuFonts, and Suitcase 8 FontAgent. Try the complete package for 30 days.

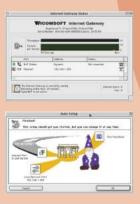
## Constitution Confession Confessio

## **QuicKeys 4 trial**

QuicKeys automates your daily computer work by letting you replace a task or series of tasks with a single trigger, such as a keystroke or a mouse click.

QuicKeys 4 boasts a redesigned interface making it easier and more intuitive to use. It also has a Keysets tab that displays all your Shortcuts. You can view different Shortcut Sets in the Keysets tab by selecting different Sets from the Set pop-up menu: simply click a button to display the new Setup Assistant or print a Shortcut.

Other improvements include an updated Configure QuicKeys dialogue, support for contextual menus, increased toolbar functionality and a suite of new plug-ins. Try QuicKeys 4 for 30 days.



## Vicomsoft Internet Gateway 6.0 trial

The Vicomsoft Internet Gateway software is an easy-to-use, costeffective way for all Local Area Network users on your network to simultaneously share one Internet account. The Internet Gateway allows users to share one means of connecting to the Internet.

Version 6.0 has a number of improvements including a new Vicomsoft WebCache Server, a high performance caching server module for web objects (HTML pages, graphics, etc.). It provides high-speed shared local access to frequently-used pages, and off-line browsing for group environments. It also has Integral DNS Caching and Name Server facilities to reduce name-resolution delays; these co-operate with the DHCP Server to provide comprehensive local name resolution. A seven-day trial is yours for free.



## ACTION GoMac 2.0.1 trial

Among its many features, ACTION GoMac adds a task bar that allows you to quickly and easily switch between your running applications, and a QuickLaunch area that allows you to launch your favourite applications with the click of a mouse. ACTION GoMac adds a StartSmart™ menu that gives you access to your Favourite files and folders, a control strip area for access to favourite control strip modules without taking up valuable screen real estate, and a clock sporting an incredibly useful, instantly accessible, desktop calendar. Test drive GoMac 2.0.1 for 30 days.

## Also on the CD

APPLE (in the System Utilities folder) including: ATI RAGE 128 Update 1.0 Disk Copy 6.3.3 G3 Firmware Update 1.0.2 MRJ 2.1.2

### COMMS & INTERNET

30 applications including: IntelliNews 1.1.1 Keep Me Online 1.0.1 Lasso Web Server 3.5r2 Mail Siphon 1.1 NetFinder v2.0

### **EDUCATION**

Five programmes including: MathMagic WordCoach 2.1

### **FONT**

Virtue 3.2.1

### iRAPHIC:

15 items including: Ink FineArt 3D PreviewMaker 1.5 text2graphic pro Tracer 2.5.1



## INFO

Six items including: 1984 OLM Issue 2.1



About This Particular Mac 5.05 Apple Wizards – May 1999 My Mac Magazine #49 + 15 items for developers

### **IATHS & SCIENCE**

Eight utilities including: Periodic Table 1.1 StarGazer's Delight

### NETWORK

EpsonShare 1.2 SetDateTime

### PALMPILO1

HanDBase Desktop Palm MacPac v2

### COUND & MUSIC

Nine applications including: ChordBook v2.0 GuitarTuner 4.0 Vamp 1.01



### ANTI VIRU

Four items for your data's continuing protection.

### UTILITIES

Eight categories comprising over 70 useful tools for your Mac including: CopyPaste 4.3.1 Default Folder 3.0.2 PandoCalendar 4.4.2 PopChar Pro 1.1.3 Reunion Planner 4.1.3 SCSIProbe 5.1.1 USB Overdrive 1.1

## IPDATERS

This month's dedicated updaters folder includes over 80MB of patches to bring many popular applications bang up-to-date, including: Conflict Catcher 8.0.5 EIMS Server 2.2.2 FWB Hard Disk Toolkit 3.0.2 Media Cleaner Pro 3.1.2 Norton AntiVirus (05/99) Retrospect 4.1 SAM (05/99) Vicomsoft Internet Gateway 6.0.1 Virex (05/99)

## Other demos include:

Abel Internet Bottom Line FotoPage 1.2 ImageVice 2.0.3 ProJPEG 3.1.2 RealPlayer G2

**ShareWay IP** 



## Shareware

Many programs on this CD are shareware, which means that if you keep them and use them for more than the allowed time (usually up to 30 days) then you must pay for them. Treat shareware as budget-priced commercial programs — support shareware authors so that they continue to provide high-quality programs for the Mac.

## **Star Wars: The Gungan Frontier demo**



As a hero of the Battle of Naboo, vou've been called before the Gungan High Council to handle a critical mission. Their city is threatened by over-population, and you must establish a new colony on a nearby moon. The Gungans need you to create a new world filled with fantastic Star Wars creatures and plants from across the galaxy. You must discover how these alien animals and plants interact and how they depend on each other to live. Only when you have an ecologically sound environment can a new Gungan city truly thrive. The fate of an entire civilization rests in your hands because, on the moon of Naboo, the most powerful force of nature is you.

The Star Wars® The Gungan Frontier™ demo features an interactive training mission that walks you through how to play. Next you are assigned to a mini-mission where you must create a world that will get the new Gungan population up to 2000.

## **Games World**

Aside from The Star Wars® The Gungan Frontier™ demo, Games World also boasts a demo version of Railroad Tycoon II which provides you with an opportunity to relive and reshape the early formative years of "The Iron Horse", revel in its golden age and struggle with its future role in the world. As an industrial baron, you will attempt to grow your company into a railroad empire. The demo includes two fully playable scenarios: "The Golden Age", focusing on the north-eastern United States in the late 19th century, and "Birth of the Iron Horse", focusing on the dawn of railroading in Britain.

There's this month's Top 12 shareware games (including Chromosomethingorother, a wacky version of Othello, and Solitaire House, a comprehensive set of solo card games), a set of missions for F/A-18 Hornet, the excellent ACE! cheater and updaters for Links LS and Realmz 6.



Chromosomethingorother Chromosomethingorother





## **Cool Extra!**

Don't miss the massive 32MB preview movie of Fly!, the forthcoming civilian flight sim from Terminal Reality Inc. Review to follow shortly...

## **FAULTY COVER CD-ROM?**

If your cover CD doesn't seem to work as it should please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work then please email Gillian Robertson at gillian\_robertson@macworld.co.uk

If your cover disc is broken and you want a replacement CD, please call Emiliegh Borrett on 0171 831 9252 or send an email to: emiliegh\_borrett@macworld.co.uk

## Macworld CD catalogue

Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 and '99 - over 112,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (1.1.4) is also included don't forget to register if you find our library useful.



## news

## OS X one step closer

Apple delivered the first developer preview of Mac OS X's client version – along with a wide range of announcements during its annual Worldwide Developers Conference in San Jose, California. Besides spelling out new details about its next-generation desktop operating system – now slated to ship early next year – interim CEO Steve Jobs used his keynote presentation at WWDC to announce the immediate availability of Mac OS 8.6 and offer a "sneak peek" of an autumn OS upgrade, code-named Sonata. In other news, Jobs debuted two new PowerBook G3 models whose processors use copper-based technology.



longside the announcement of the free upgrade to Mac OS 8.6 (see page 19) at its annual Worldwide Developer Conference (WWDC), Apple is now distributing the first developer preview of its next-generation client-based operating system, Mac OS X.

OS X (pronounced 'ten') builds on the opensource Darwin core of the recently released Mac OS X Server. Darwin includes powerful features such as the Mach/BSD microkernel (upgraded from version 2.5 to 3.0), protected memory, pre-emptive multitasking, and multi-threading.

On top of the Darwin layer sits **Quartz**, a new graphics and windowing layer based on Adobe's Portable Document Format (PDF). Graphic-display features are currently handled by QuickDraw. Quartz will support such sophisticated imaging

features as alpha channels, making it easier for developers to incorporate image-compositing functions into their applications. For example, Apple product marketing VP Phil Schiller dragged a PDF file to a sample application that automatically anti-aliased the graphic and generated a blurred drop-shadow. He also laid one PDF file on top of another and used slider controls to modify their transparency. Some Quartz components were invented by Steve Jobs' other company, Pixar.

"This is the first time compositing has been built into an OS," said Jobs. "We, and you, can build software with this kind of functionality without having to reinvent the wheel."

Schiller demonstrated Quartz' functionality with two in-house Apple applications called LayerView and Playground.

## PDF graphics for OS X: Quartz plan crystal clear

ust as soon as the first details of Quartz
– the PDF-based graphics architecture
for Mac OS X client – became available
at the WWDC, the vital importance of this
architecture for Apple was crystal-clear. (That
must come with the name, I suppose...)

When I say vital, I mean vital: This, in the long run, will make (or break) Mac OS X – and in the process the future of the Macintosh as a professional computing platform

Why I am so adamant? For one thing, Quartz is the first truly innovative graphics architecture to appear on personal computers since the ill-fated Display PostScript. Of course, this is not an industry that always goes for the most innovative product. The real reason Quartz is so essential for Apple is that it arrives at a moment when the publishing industry clearly needs broader standards. Adobe's PDF is one of them.

I'm not going to delve into the technical advantages of Portable Document Format; the question is not whether PDF will be a standard for pre-press (in some places it is Classic Carbon Coco

Quartz

Darwin

cha
extended
the base

but how long it will take to override a few bad habits in the marketplace. It's a question of time, nothing else.

Creating a graphics model based on this standard is a good move for a company that remains the clear leader in publishing, and it has two huge advantages for Apple: It makes Adobe happy, and once Adobe has finished adapting Illustrator, Photoshop and InDesign,

the new graphics architecture should have trouble attracting the rest of the industry.

Even more important:
if Apple plays its cards right,
there will again be a major
technological difference between
Windows and Mac OS – a
difference that should inspire
developers. System-wide alpha

channels, full Unicode support, extended typographic features: This could be the base of the next-generation professional graphics computer, and it may take Microsoft several years before it will be able to come out with a competitive option.

Of course, Apple can't do this alone – otherwise QuickDraw GX might have been a success. But by working closely with Adobe, and by listening to the market, this is a reasonable option. Looking at the potential of Quartz, it offers a very exciting perspective for the industry. – Andreas Pfeiffer

## Apple fleshes out OS roadmap at Worldwide Developers Conference

## No box clever

Three application environments exist transparently on top of Darwin and Quartz.

**Classic** – once known as the *Blue Box* – lets older Mac programs run on the new OS, but without any of OS X's new features – no Quartz, no memory protection, no multitasking. However, this will now be a transparent "box-less" experience, letting users run older Mac apps side by side with native applications. If a Classic application crashes, all Classic apps being run will also crash, but this won't take down your OS.

**Carbon** – announced last year – is Apple's solution to the problem of now out-dated, useless legacy code in the Mac OS. Running the Carbon tests on older software lets developers clean up "15 years of barnacles", according to Jobs. Cleaned-up Carbon Mac apps can take advantage of the advanced features of Mac OS X – most importantly, multitasking and protected memory. To-date, 5,500 current applications – such as Adobe Photoshop and Mathematica – have been 'Carbon-ized' to support OS X.

**Cocoa** – the old *Yellow Box* – is the environment for future OS X-optimized applications. Jobs claimed that Mac OS X will provide "full Java APIs" on top of Cocoa – hence the name. (Don't confuse this with Apple's previous project Cocoa – a graphical animation programming environment for kids.)

## **New Finder features**

Schiller showed off OS X's Carbon-ized and revamped Finder, as well as a Mail Viewer email client running on top of Carbon and Cocoa. Searches on the OS X-integrated email client run under OS 8.6's Sherlock engine. Mail Viewer lets you place a PDF file directly within an email.

The new Finder has been described by insiders as "very NeXT-ish". Its File Viewer lets users integrate information on their own file systems or network file systems. A File Viewer window automatically adds new columns of information, so users don't need to open multiple windows

to get to all the data they need.

Frequently accessed folders, whether stored locally or across a network, can be stored on a "shelf" for easy access, a feature that Jobs likened to the tuner buttons on a car radio.

ime.PSI

\*

The new Finder will also include picture previews and file information in the directory list. Apple says the new features will make it easier to access files, especially those on remote volumes. However, some developers were less than enthusiastic about the new approach, contending that users will find it more difficult to move or copy files. You will, however, be able to operate the new Finder in a more Mac-OS-like manner, using the icon and list views for folders.

Information can be viewed as columns and icons without losing the hierarchy in the top of the window. Users can preview a graphic and get information on a file directly in its File Viewer window (see above) without having to open another program or use a "Get Info" command.

"You can keep everything within the context of one window, if you wish," said Jobs. "This is something we brought from NeXT. It's been tested on every type of user from professionals to new end-users. Someone who has never used a computer before can quickly be navigating around a local area network in a way that only the most sophisticated Macintosh user can do today."

"We now have the foundational stuff behind us, so we'll be seeing rapid improvement in the top layers and user interface," Jobs said, adding that a second preview version will ship to developers this autumn. The full client version of Mac OS X is scheduled to ship in "early 2000".

# lew thin PowerBook lust as we predicted last issue, Apple has squeezed its excellent lust as we predicted last issue, Apple has squeezed its excellent powerBook G3 Series into thinner, lighter cases. More on page 50 powerBook G3 Series into thinner, lighter cases. More on page 50 powerBook G3 Series into thinner, lighter cases. More on page 50

## Mac OS 8.6 free – but one heavy download

teve Jobs and senior vice president for software engineering, Avadis Tevanian, said Mac OS 8.6 – available now to Mac OS 8.5 owners as a free download – provides an easier to use and more powerful Sherlock search feature; increases system stability; and packs significant kernel enhancements that offer improvements such as extended battery life for portable systems. Most of the improvements are tinkering-with-the-engine enhancements, with none of the spectacular interface advances that we saw with Mac OS 8.5.

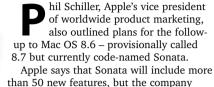
Macworld is attempting to obtain a licence to carry the 36MB update on its cover-mounted CD-ROM, but Apple US is blocking the move in favour of Internet downloads (see Reviews, page 51). Download Mac OS 8.6 Update, English-British at http://asu.info.apple.com/swupdates.nsf/artnum/n11421. The Mac OS 8.6 Update installs on top of Mac OS 8.5 or 8.5.1, and does not provide full install functionality on its own.

In addition, Apple has also created a Mac OS 8.6 Update on CD-ROM programme for customers who do not wish to download. There's a P&P fee of £14. Call 0870 600 6010.

## **Apple moonlights Sonata**

**Users** can shop till they drag-&-drop





than 50 new features, but the company chose to preview just two: a major Sherlock upgrade (version 2) and the ability to configure a single system for multiple users.

According to Schiller, Sherlock 2 will include interface enhancements, allow users to switch between sets of search plug-ins, and offer fast access to custom searches that poll major Web information services and display results based

on the type of information requested.

Sherlock II will feature a revised design reminiscent of Apple's new QuickTime Player, with a drawer that lets you store commonly used plug-in sets. In addition to providing plug-ins for accessing Internet search engines, Sherlock II will include plug-ins for automatically accessing online retailers and "people-finder" directories. For example, if you want to purchase a modem, Sherlock will search e-commerce sites and return with a list of modems including product name,

elemen@ry! Sherlock 2: the case of the ecommerce engine

used to think that QuickTime was the biggest gun Apple had on the rack, but I may have to revise that estimate. At this year's WWDC Apple talked about Sherlock and some of the improvements that the company plans to make, including finding ways to apply it to e-commerce. The implications are startling.

I wasn't a Sherlock believer until recently, as I'd had some bad experiences with a few godawful Web pages and Java applications that purported to send your query to multiple search engines. Invariably these supposed time-savers balked, hung and then spewed forth torrents of irrelevant links. In fact, it took a Web-based search service called Ask Jeeves to convince me that a multi-engine guery could ever be more than a sideshow attraction. But after a couple of weeks of successfully hitting up Jeeves for information, I remembered that Sherlock had the same capabilities and gave it a try just for

The results were jaw-dropping, and I haven't used anything else for months. If you haven't checked out Sherlock's Web search capabilities, give it a shot - especially if you've got a high-bandwidth Net connection.

What's most astonishing about Sherlock

isn't the time that it saves, but rather the subtle attitude shift it produces. "Portal" is the current Internet buzzword, and everyone wants to be one. The concept is remarkably similar to the gaming floor of a Las Vegas casino - promise anything to get the marks in the door, and then surround them with bright flashing lights, food, drink and games to play. If they're done properly, a portal or a casino both produce the same reaction: "Why should I go anywhere else? Everything that I need is

On the surface, Sherlock busts up this little scheme by skimming the information cream from each site. But at a more emotional and damaging – level Sherlock refutes the casino/portal premise by doing its own relevancy ranking on the hits it returns. You only have to perform a few searches to realize that no individual portal returns all the best results all the time. In other words, no one portal/casino has everything that you need.

You don't have to be a behavioural scientist or have an MBA to take this argument the next logical step: In Sherlock Apple has created its very own portal.

And what's the next logical step when you've got a portal? Try to make money off it.



It seems unlikely that users will put up with advertising delivered by something that's essentially a Finder utility. (Cynic's note: Yet. Within a year, two at the outside, you're going to be looking at pop-up ads in some section of the operating system.) But if Apple can use Sherlock to hook up

buyers and sellers, it's naïve to think that the company won't move aggressively to make money off those transactions.

Apple already gets a cut from Amazon.com and Barnes and Noble sales that start with a Sherlock search, and this is just the

So keep an eye on Sherlock. This is one Apple technology with lots of potential. MW - Cameron Crotty

price, and availability. If you search for a person, the results window displays names, email addresses, and phone numbers.

To illustrate the new feature, Schiller demonstrated Sherlock 2's ability to display appropriate results based on a search for an individual or when comparison shopping among

"We're looking at making a better personal computer," said Schiller. "One of the things [users] want to do is search and shop on the Internet." he said, noting that two-thirds of Mac OS consumers

"We help ourselves and the Mac if we make it easier for people to shop on the Internet than any other computer," Schiller said.

The current version of Sherlock already offers the ability to track an online transaction that starts with a query from a Sherlock-enabled Mac. But now Apple is applying the technology to whole sets of e-commerce sites, and will tout it as a major feature of the Mac OS, a possible sign that the company will ramp up its e-commerce efforts later this year.

on the Internet," said Avie Tevanian, senior vice president of software engineering. Schiller added that he expects shopping to be one of the mostused features in the new Sherlock II.

## Rival 'tec techs

Apple thinks it has some advantages over other price comparison search technologies.

"Others are doing meta-search engines," Schiller acknowledges. "We're doing something much broader. We can get this out to millions of users and make it a standard part of the use of a Mac."

"We haven't pro-actively gone out to license the software," Schiller said. If a company had an "interesting business opportunity," Apple wouldn't automatically say no, either, he indicated.

The new multiple-user feature, of particular interest to families, lets you set up your Mac with unique preferences and access privileges for each

who have Sherlock use the technology.

"There is no other way people will want to shop

## **Everything and the FontSync**

family

member. When

you boot up the Mac,

Sources at Apple add that the company is working on a new piece of cross-platform technology - FontSync - for advanced font management, designed to replace the existing Mac OS font control system as well as other third-party solutions, such as Extensis Suitcase see screen, bottom right.

FontSync would work along the same basic principles as ColorSync. It would standardize fonts, allowing users to create a font profile that can be carried on a disk and supplied to service bureaus for the purpose of viewing and printing documents.

Sonata should ship this September.



vou select vour name from a log-in panel and enter a password. The system then configures itself to conform to your preferences for fonts, desktop appearance, and other elements. You can use the passwords to control access to email. Web sites, and locally stored files or folders (see screen, top right). You can also require users to enter

passwords to open individual documents. Sonata's personalized security features will include allowing individual users to log on using their own "voice signature." Schiller demonstrated a built-in Keychain capability that will allow users to unlock access to all the servers they access via a single password.



## Factory Settings Revert Set

New type FontSync could use a font-embedding technology similar to the that in Adobe's Acrobat. Although not confirmed by Apple, this rumour does tie in with recent reports of Apple's co-operation with Adobe to employ PDF-like capabilities in

## G4 Power Macs promised 'this time next year'



he WWDC was not all about the OS (s) and software, the hardware got a boost as well. Apple unveiled details of its forthcoming PowerPC G4 Macs. The machines will ship by this time next year. according to the company.

The new G4 chip – being developed by Motorola - will contain AltiVec technology designed for processorintensive applications such as multimedia and heavy-duty scientific calculations.

The G4 will be smaller, contain more transistors (10.5 million) and use less power than Intel's much-hyped

Pentium III chip. Apple execs claimed G4-powered Macs will run certain applications - such as Adobe Photoshop – up to one-and-a-half times faster then the current Mac standard, the G3 chip. Operating systems including Mac OS 8.6 and Mac OS X will support the chip, Apple said.

Apple also revealed that DVD drives, not CD-ROMs would eventually become standard Mac issue. And the company promised to beef up support for USB and FireWire peripherals, adding features that search for drivers over the Internet if they don't exist on the machine.

## news



## Now QT4 really is Flash

## New tags for QuickTime browser plug-in gives Webmasters more control over multimedia sites

new tags for QuickTime 4's updated browser plug-in that give Webmasters more control over QuickTime media on their sites. For example, one feature will let them throttle back a movie's download rate, smoothing the load on the network. Movie start and end times can be specified within the HTML code, and Webmasters will be able to chain together movies for sequential playback. Movies embedded in a Web page can be targeted to open in either the new QuickTime Player, another frame or a new browser window. While a movie is downloading, another tag can instruct the QuickTime plug-in to display a designated reference image from anywhere on the Web.



Meanwhile, Apple touted the browser plug-in's newfound support for the Flash 3 format; when a Flash animation containing an alpha channel was overlaid on top of a QT movie, the buttons of the Flash movie served as the movie controller. QuickTime 4 accomplishes this feat by generating "wired actions" on the fly in response to Flash actions, then directing them to other QuickTime 4 tracks.

QuickTime 4's ability to incorporate Flash 3 files may be an indicator of other media migrating to QuickTime. Apple stayed mum on any plans to extend QuickTime VR to display immersive scenes that employ anything besides a standard cylindrical projection.

Nevertheless it's not much of a stretch to speculate that a media handler for LivePicture's spherical RealVR format or the IPIX fisheve projection could bring these technologies under QT's already broad umbrella.

Apple demonstrated QuickTime 4's improved ability to display undistorted panoramas; panning through a scene using the QuickTime 3 rendering engine yields a "shimmering" effect that QuickTime 4 eliminates. The new version also fixes distortion in panoramas with large vertical fields of view. To demonstrate these enhancements, Apple highlighted a spectacular panorama, shot halfway up a mountain by VR pro Scott Highton and composed using a multirow stitching technology created by Apple staffer, Ken Turkowski.

- Matthew Rothenberg

■ Read our preview of QuickTime 4 Pro in Reviews, page 46



R eports and rumours are hotting up about the 'imminent' arrival of the last part of Steve Jobs' product jigsaw, the consumer portable Mac (code-named P1).

A recent article in AsiaBizTech talks about the outsourcing of Apple manufacturing to Taiwanese companies. Most interestingly, it says: "Alpha Top Corp is scheduled to churn out iMac lines of notebook PCs in June".

## **Surprise awaits**

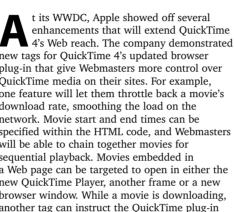
Neither Alpha Top nor Apple was willing to confirm the rumour. Taiwanese Apple reps said only that their company "will surprise the market" in the second half of the year with a new product line. This could mean consumer portables by New York's Macworld Expo in July, as widely expected by most industry sources.

P1 is likely to be inspired by Apple's former eMate portable (right), featuring a curvy

now-ubiquitous translucent plastics. It will run a full version of Mac OS 8.6; the eMate used the now-defunct Newton OS. Reports suggest P1 will offer two USB ports, and a10-inch, passive-matrix flat,

24-bit colour LCD screen. One Apple source hinted that the screen will rotate for all-round viewing. FireWire ports are also a possibility, but the iMac's lack of the IEEE 1394 standard suggests otherwise.

Recent reports suggest that Apple is preparing a new phone-based Call Center for the upcoming consumer portable near its main HQ in Cupertino,



But MGI is not alone in courting LPI's assets. Second suitor, ArcSoft produces digital imaging and video software such as PhotoStudio, PhotoPrinter and PhotoManager – for both PC and Mac platforms. ArcSoft says it has long-admired Live Picture's zoom-imaging technology and product line, which also includes the

PhotoVista panorama creator.

Live Picture 'undead'

for the assets of Live

Picture Inc (LPI). LPI - makers

of the eponymous, innovative

Zoom technology - has filed

for Chapter 11 bankruptcy.

LPI (www.livepicture.com) was

John Sculley, who stepped down as LPI's president and

Imaging vendor MGI Software (www.mgisoft.com)

especially interested in the

Zoom image server line. Both

MGI and LPI also made client-

based image-editing products.

said it would be reviewing Live Picture's product line, but was

CEO in April.

headed by former Apple CEO

image editor and FlashPix

bidding war has started

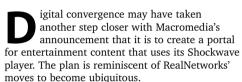




## Shock to the system

As well as a new version of its animated-vector-graphic authoring tool, Flash 4 (see Product News, page 38), Macromedia will roll-out Shockwave.com as a new site to attract consumers to content authored by Macromedia technologies. The company previously hosted an entertainment site at www.shockrave.com, which had a skeleton crew, but the new site is being treated more like a start-up company within Macromedia. Shockwave will also get a new remote control that gives users more control over the Shockwave content they are experiencing. Users who pay for a \$20 upgrade for the free Shockwave player will own the Shockmachine (right), a new interface whereby they can store their favourite Shockwave content locally and by content type.

DIGITAL CONVERGENCE: Macromedia shifts from tools to Web-based content



"What we see Macromedia doing here is the same as what RealNetworks did with audio and video," said Brian Apgar, chief entrepreneur and co-founder of Mpath Interactive – the parent company of online gaming site, Mplayer.com.

Mpath was one of ten partners to sign deals with Macromedia agreeing to use the company's technology to create online content.

Macromedia is the mind behind the Flash and Shockwave technologies, which allow not only animation but other kinds of media to be downloaded and played on a PC or Flash-enabled device. Two new players – the Shockwave Remote and the Shockmachine – were also unveiled.



The switch from tools-based products to Webbased content is a major shift for Macromedia, said chairman and CEO, Rob Burgess.

"We see ourselves perfectly positioned for the digital convergence, but we don't have to wait for high bandwidth to put our content on the Net," Burgess said.

Much of what makes the move possible is the extraordinary number of Flash and Shockwave players – the software needed to display enhanced content – that have been downloaded by users. More than 100 million Flash plug-ins as well as 70 million Shockwave players have been



snapped up from Macromedia's site, the company said. More than 17 million players were downloaded last month alone.

For Burgess, those numbers signal that it's time to concentrate on content. "We are not converting our company into this new business," he said. "It is the next step in our evolution."

Shockwave.com offers games, comics, cartoons and other forms of entertainment. Eventually, both MP3 music files and QuickTime movie files will be offered from the site.

"What Shockwave brings in is the ability to do highly interactive entertainment online, the same way you do it offline," said David Marshak, senior vice president and principal consultant at the Patricia Seybold Group, adding that it's no surprise that Macromedia's move is timed with the take-off of casual gaming. According to Mpath's Apgar, the casual gaming segment is the fastest growing on Mplayer.com. Of the top ten games, half of them are casual, he said.

## **Content becoming king**

"We are working with Macromedia to become a technology partner," said Apgar. "It's really good for us at Mplayer to help people create really interesting content."

GT Interactive has also joined up as well – Shockwave.com will feature the company's Real Pool game, ported from Mac and PC to the Web-based Shockwave.

In the end, content could easily be king.
"This part of the business could dwarf their

original Macromedia business," Seybold's Marshak said. **– Robert Lemos** 

## What a sauce! HP exits Mac scanner market

ewlett-Packard has dramatically ended its development in the Mac scanner market. However, HP said it may return if scanner technology evolves.

shall meet

**Imaging giant** 

quits, as never

the Mac TWAIN

HP said it will continue to support its Maccompatible scanners connected to computers running Mac OS 8.x, but admitted its scanners are incompatible with blue G3 Macs and will remain so. HP's DeskScan software is incompatible with the Adaptec SCSI card included with blue G3 Macs. Further, HP says its scanners are incompatible with technologies in Apple's forthcoming operating

system, Mac OS X. Pam Ingmire, scanner market development manager, said HP will continue to make Mac-compatible printers but that scanner technology posed too many problems.

"Printers are much more evolved beasts," she said. "If scanner technology evolved so that we could get TWAIN compatibility, it would be much easier to support the Mac OS, and we could consider returning to the Mac market," Ingmire said. She noted that the TWAIN Working Group, a non-profit consortium of imaging industry companies,

is involved in porting TWAIN to Mac, Linux and other platforms.

Jeri Culp, project manager of the HP connectivity group, which makes the ScanJet scanner, is involved with the TWAIN Working Group: "Although TWAIN adoption has taken off on the Windows side, an Adobe Photoshop plug-in had a big foothold on the Mac side that prevented wide adoption of the TWAIN interface," Culp said.

"There have not been many TWAIN adopters on the Mac software or hardware level." – Wendy Mattson



## news



## Mac speak easy

acintosh users who have lamented the lack of sophisticated voice-recognition technology got some good news at Apple's Worldwide Developers Conference. During his keynote address, CEO Steve Jobs revealed that Dragon Systems will deliver a Mac-based program derived from its NaturallySpeaking software for Windows.

The new software, scheduled to ship later this year, will close a huge gap between the Mac and PC in terms of voice-recognition capabilities. Although the Mac OS offers limited voice recognition via Apple's PlainTalk extension (see below), there hasn't been a comprehensive Mac voice-recognizer since Articulate Systems – engaged in a legal dispute with Apple – pulled the plug on its PowerSecretary software in 1998.

Furthermore, there has never been a Mac program capable of the latest advance in voice recognition: continuous-speech dictation.

## Chat's the way to do it

Before Dragon's 1997 introduction of NaturallySpeaking, voice-recognition software (including PowerSecretary) was limited to discrete dictation, meaning users had to pause between each spoken word. NaturallySpeaking's continuous-speech technology lets users talk without pauses, much as they would in normal conversation. The Windows software is the best-selling voice-recognition product in the US, according to market researcher, PC Data.

The technology is used in a variety of applications, including dictation, and customer support. For users with repetitive-stress injury, voice-recognition provides an alternative to keyboard or mouse input.

"It's great news for our customers that Dragon is bringing their world-class speech-recognition

A pple also released PlainTalk 1.5.4, which now supports speech recognition on the iMac and blue G3 Power Macs. PlainTalk is a collection of software programs that let your Mac speak written text and respond to spoken commands – best known for new Macintosh users phoning pals with funny

Stephen Hawking impressions.

PlainTalk 1.5.4 includes English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition. Version 1.5.4 now also includes higher-quality voices, top new speakable items, and a handy collection of bug fixes.

PlainTalk now supports the

software to the Macintosh," said Steve Jobs, Apple's interim CEO.

"The underlying architecture of the Mac platform, with fast PowerPC processors and outstanding audio support, will make Macintosh the premier platform for Dragon NaturallySpeaking.

"Dragon's return to the Mac market is more evidence of the great business opportunities available on Macintosh for innovative developers," he added.

## No longer speechless

"We have received many requests for a Macintosh version of Dragon NaturallySpeaking and, working with Apple, we're going to deliver a high-quality speech solution for Mac users," said Dragon Systems chairman and CEO Janet Baker.

Dragon did not announce pricing or a product name for the Macintosh software. The company said it plans to begin with releases for American and British English, then follow them up with French, German and Japanese versions.

Dragon's WWDC announcement appears to represent a reconciliation with Apple, after a run of patent disputes.

In February 1996, Articulate Systems – then owned in part by Dragon – filed a patent-infringement suit against Apple, which then countersued with a claim that Power-Secretary violated four Apple patents. In October 1997, Apple filed a lawsuit against Dragon – alleging that NaturallySpeaking violated three Apple patents. The companies have settled the lawsuits but refused to reveal settlement terms.

Dragon Systems (www.dragonsystems.com) has a European subsidiary (01628 894 150) in Marlow, near London, and additional research laboratories in Cheltenham. – Stephen Beale

sampling rate.

new sound hardware on the

iMac and Power Macs, which

digitizes sound at 44.1kHz.

**Previous versions of the Speech** 

Recognition extension did not

allow recognition at this new

http://asu.info.apple.com/swupdates.ns

Download PlainTalk 1.5.4 at

voice recognition Mac port is worth shouting about

Why top Windows

## Director 7.02

M acromedia has released a new – free – update to its market-leading multimediaauthor. Director 7.02 includes the following new features:

- streaming of QuickTime 4 cast members;
- support for Flash 4;
- MP3 streaming support;
- pre-rendering options for text cast members for improved performance;
- and, improvements to the Font Cast Member Properties dialogue.
   According to Macromedia, the update also includes a

number of bug fixes, including:

- low-memory stability;
- movies in a window;
- integration with Macromedia Fireworks:
- performance opening bitmaps in the paint window;
- $\blacksquare$  font in cache referencing;
- and, performance using large text and script cast members.

www.macromedia.com/support/director/downloads

## Simon Danaher looks ahead to the futures of two great Mac 3D programs



## **Battle of the**

## Cinema 4D XL 6.0 gets blends in motion

t's a busy time for 3D releases at the moment. Maxon's Cinema 4D XL – the world's fastest raytrace renderer – moves to version 6.0, and will feature a major overhaul of the animation system focusing on a totally rebuilt Timeline. The new Time Manager now integrates the time-line and transport controls in a single, neat interface, where there were previously two separate floating palettes. Multiple selection of keys and sequences is now fully implemented in the Time Manager, and there is also user-defined colour coding that will help in organizing complex animations.

Object selection in the Time Manager has been linked with the Object Manager to make things a lot less confusing. A new Solo mode lets you see only the selected items' sequences, reducing clutter while you concentrate on tweaking keys.

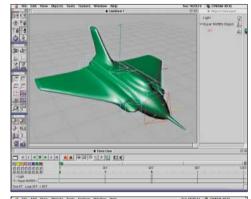
The biggest new feature, though, and something of a coup for Maxon, is animation blending. This is a major leap forward for animators used to traditional explicit keyframing and is a feature we've seen only in high-end, SGI/NT-only 3D applications such as Houdini and the yet-to-be-released Sumatra. There's certainly nothing like it on the Mac yet.

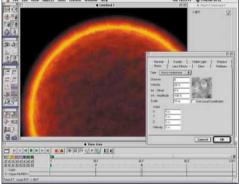
## 3D revolution

Motion-sequencing – as Maxon has dubbed it – essentially allows you to overlap and blend two or more totally different sets of keyframes for an object. If you have a character walking, then to animate it standing from a crouch would be very difficult using a single keyframe track to combine the two and make the character stand from a crouch while walking. With Motion-sequencing, the two events can be animated independently as normal, then with a click of the mouse each can be turned into special Motion-Sequencing tracks and overlapped as desired. It is quite the most stunning thing to see in action and will revolutionize the way animators work.

HyperNURBS is a new modelling method that takes inspiration from Lightwave's MetaNURBS (see top right), long heralded as the easiest way to do organic modelling in 3D. HyperNURBS work very similarly to MetaNURBS; you can begin with a simple cube and bevel, extrude and add to the geometry of a polygonal cage, which controls a smooth NURBS surface beneath.

Because Cinema 4D XL is an integrated 3D application with no distinction between modelling and animation, HyperNURBS can be rendered directly. However, the real power becomes evident in combination with the new animation system. Point animation is now possible, which means





Hyper hyper HyperNURBS bring a new level of organic modelling to Cinema 4D XL. Starting with a simple cuboid, this jet fighter was modelled in a matter of minutes. HyperNURBS also features automatic tripling of polygons that exceed four vertices that can be created during modelling. See the light Animated fractal noise is available for volumetric or glowing lights, but it can be used for more than just smoke effects. Here it is used to create the effect of a glowing spherical surface. Note the concentration of the effect at the limb.

that the control vertices of a HyperNURBS cage can be directly animated. Audio waveform display is available in the new TimeManager, which will make lipsynch animation using HyperNURBS a seamless operation.

New deformation tools have been created to replace the painful Twist and Bend animation sequences. These are interactively applied to objects in the workspace.

Maxon will also introduce two new programs: a 3D painting application code-named Marvin (see above), and Cinema 4D Net. The latter is a stand-alone distributed renderer that will be capable of sharing rendering tasks in a mixed platform network, either locally or over the Internet via TCP/IP. It is infinitely scalable and supports up to 16 processors per connected machine.

## sixes

## Lightwave 6.0 Layout welcomes MetaNURBS

he speculation is over, well at least some of it anyway, as Newtek finally demonstrated some of the features of their next-generation 3D animation software – Lightwave 6.0. Purple, as it has been code-named, was demonstrated to NAB-goers in Las Vegas and it looks like the famed 3D production tool will gain some stunning (and long overdue) new features when it is finally released later this year.

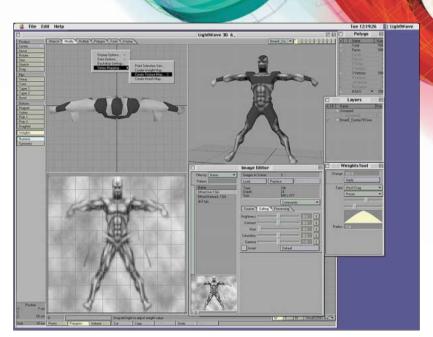
Though the build that was demoed looked very much like the current version (5.6) there is still a lot of time before the final release, and Newtek had not indicated that what was shown would be the final form that the 6.0 interface will take. The new version will have a much tighter integration between the two halves (Layout and Modeler), with many shared features.

Layout now has quad views. In fact, the viewports can be fully configured with various view pane setups available. Drop-down menus let you choose any view for each pane, including othographic, light and multiple camera views. Newtek has also improved interactivity in many areas of the program. The custom OpenGL previews can now display Lens Flares, Fog and even reflections in real time. Modeler has received similar attention with OpenGL previews being available in all four of the view panes too.

Full surfacing ability – not just assigning surfaces to your models, but texture mapping them, too – is now also available in Modeler. UV mapping will be a major new feature, and Modeler will have new tools to aid with texture placement – a bug bear in many 3D applications. The new Surfaces panel, common to both sections of the program, has been totally redesigned with stacked textures visible in a list, greater animation control via envelopes, and totally new features – like image processing – that lets you tweak texture maps without having to leave Lightwave for a 2D paint application. Many of the panels are smaller and neater than the old ones, and – again with the stress on interactivity – all changes you make to a surface are instantly updated in the Surfaces preview window.

Under the hood, the rendering engine has received attention too, with the Hypervoxels and Steamer algorithms fully integrated into the renderer. Caustics are now available, and though there was no definite word from Newtek about Radiosity, it's pretty clear that if Caustics are in 6.0 then it is very likely that Radiosity will be too.

On the animation side, there is a brand new hybrid Forward/Inverse Kinematics animation engine that will make character work much easier in Lightwave. On-screen icons allow interactive setting of joint limits and better display of joint orientations; and there may also be point-tagging for bones.



Long-standing problems have been rectified. Animation is now totally independent in the x, y and z channels for each object, and simple things, like being able to paste setting from one surface attribute to another, are now possible.

Newtek has gone to great lengths to ensure backward-compatibility with existing scene files, object files and plug-ins even though the plug-in architecture and file system has been extensively revamped. Morph targets, for example, will all be contained within a single object file, making this sort of animation a lot less cumbersome.

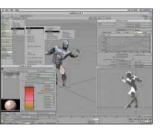
The feature that all Lightwave users have been longing for finally makes its appearance in 6.0 – MetaNURBS in Layout. You no longer have to freeze a MetaNURBS object into polygons to load it into Layout, which will now tessellate nurbs objects at rendertime. Subdivision values can be changed at any time, allowing you to work with low-res models and change them to high res for final output.

The new Modeler will also allow point weighting on MetaNURBS objects using a brilliant but simple OpenGL visual representation of the weight assigned to selected points. This means you no longer need to add geometry to create sharp corners on MetaNURBS surface, just select the point and change the weighting. Many of the modelling tools are fully interactive too, letting you see the results of a Bevel operation; for example, as you drag the mouse to change the values. When enabled, Symmetry mirrors modelling operations to the opposite sides of objects, creating symmetrical models without the fuss of Mirroring and Merging.

Though the features disclosed so far make up only a small fraction of the full set, it is clear that in the two years of development Newtek hasn't been twiddling its thumbs. Version 6.0 is a major revision, yet the price will follow the same price increase trends of previous upgrades. The full version is expected to be announced at Siggraph later this year and will ship for £1,595 +VAT. It's also good news to hear Newtek reaffirming its commitment to the Mac platform, by insisting that all third-party developers release Mac versions of their plug-ins.

### Layer layer

Modeler will feature a much-improved environment for building, managing and even surfacing objects. Each of the ten layers can now hold within them an unlimited number of named, sub-layers managed via the new Layer palette.



## orld in motion

The all new animation features in 6.0 will make animating a lot less like jumping through hoops. The Motion graph features independent keyframes for each channel and bézier-style interpolation curves. Pop-up menus will also make accessing functions much easier.



## Open eyes

The new OpenGL features in Lightwave 6.0 include real-time display of Lens Flares, Fog and reflections, giving the user a much better indication of the looks of a scene.

## **Pirates of Silicon Valley**

## **EXCLUSIVE PREVIEW:**

Steve Jobs vs Bill Gates hits screens in new movie

irates of Silicon Valley is a TNT original movie, due for its premiere US airing on June 20. It's a story we're all familiar with: the two Steves (Jobs and Wozniak) knock together a computer in a parent's garage, found Apple, make millions, visit Xerox, ship the Mac, make billions, and then watch it all crumble as Microsoft steals all their ideas and Bill Gates becomes the richest man on the planet.

Writer/director Martyn Burke has captured the main characters with gusto. Fresh-faced Noah Wyle (Carter in ER) is an inspired choice as Jobs - sweetness and light on the surface but ruthless underneath. Gates will be chuffed as he's played by a rather too-cool actor, although Anthony Michael Hall does a good job of nerding himself down for the part.

Pirates is a blast - mainly due to the Jobs persona in overdrive. We get Steve undergoing scream therapy ("The anger's gone!"... yeah, right...); Steve dropping acid ("Everything's moving just the way I want it to"); and Steve, bare feet on the boardroom table, balling out a nervous interviewee ("Are you a virgin?").

Even Bill Gates gets to play it wild: racing bulldozers, drink-driving, and, sort of, inventing roller disco.

But Pirates is so technology-shy, that it would entertain the Amish - if they owned TVs... Joe Public just won't understand what on earth is going on.

The story is rolling along rather nicely when Burke runs out of time. And, in his rush to wrap things up, he skips what should have been the centre of the plot. One minute, John Sculley is toasting Jobs at his 30th birthday bash, the next

> a screen title informs us that "Three months later,



Above and left: Noah Wyle as Steve Jobs. Right, from the top: The real Steve and Bill; not the real Steve and Bill; Jobs and Woz blow up their first computer: Bill aets mad when Steve shows off the Mac; nerdy Bill poses with PC.

John Sculley sacked Steve Jobs". Seconds later, more titles inform us that Bill Gates is the richest man in the world, and that Microsoft "now owns a part of Apple Computer". For all its aspirations

With some technology added for background info, Pirates would have made a superb miniseries. As it is, it's something pretty cool to watch while you download Mac OS 8.6. - Simon Jary

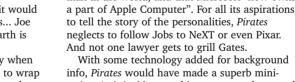












For the full version of this review, go to Macworld Online's Hot Reviews on

www.macworld.co.uk.



## Monster Monster! New Pixar flick follows Toy Story 2

pixar Animation Studios – Steve Jobs 'other company' and the force behind computergenerated box-office smash hits Toy Story and A Bug's Life – has begun work on Monsters, Inc., its next computer-animated Disney co-production.

The new computer-generated picture - scheduled for release in 2001 - is a comedy set in a surreal realm, where chaos ensues after a hapless monster lets a human

child into the secret world by mistake.

Writer Pete Docter - Oscarnominated for Toy Story - and David Silverman, supervising director on The Simpsons, are set to direct the animated movie.

Pixar and Disney will release Toy Story 2, a follow-up to the 1995 blockbuster, in time for

Pixar's chairman is Apple CEO Steve Jobs. He believes that Toy

Story 2 will be a massive hit, as there will be little competition in the animated film space.

Jobs said the Pixar films are "in the most lucrative part of Hollywood".

"It's like software," he said, since the animation products are reproducible in so many forms from toy products to digital video disks, or DVDs, as well as on videotapes and in music recordings.



## Sunny and shares

## Apple stock riding high

fter several years of stock-price freefall and share stagnation, Apple stock in May hit its highest point in nearly four years, topping out at \$50 per share – up 7.74 per cent on the day. The rise came on the heels of an endorsement by investment bankers Goldman Sachs, which upped Apple from a "market perform" rating to its "recommended list".

On the same day that Goldman Sachs catapulted Apple to the list, John Murphy of Murphy Morris – commonly known as "the father of technical analysis" – performed a technical analysis of Apple and assigned it a target range of between \$65 and \$70.

According to Reuters, Apple's stock was one of the most active shares in consolidated trading on the NASDAQ stock exchange.

Tim Bajarin, an analyst with Creative Strategies, said Apple has done an outstanding job of marketing itself to Wall Street: "There's no question the market sees Apple in a different light than other computer makers like Compaq, with the success of the iMac and the potential for the upcoming consumer portable.

"Word is filtering through the markets that Apple is successfully pursuing a niche market, and its business model now has potential," Baiarin said.

Apple's stock has offered shareholders a rollercoaster ride in recent years. In mid-April 1998, Apple's stock closed at a 52-week high of \$28.63,



compared with \$12 in December 1997.

Since Steve Jobs took the reins at Apple again in September 1997, he and his management team have led Apple back into the black, focused the company's product development and introduced high-publicity new products like the consumeroriented iMac. Jobs, a co-founder of Apple, was ousted in 1985 in a boardroom coup.

In fiscal 1998, Apple reported its first full year of profits in three years and has reported consecutive profits since.



## QuarkXPress 5.0 – layers!

A s Adobe prepares to launch its nextgeneration DTP program, InDesign (see *Macworld*'s exclusive preview, May 1999), Quark has rush-revealed details of the next version of its market-leading XPress program.

InDesign's most anticipated feature is its layers functionality. At present, XPress users are limited to moving individual items only to the front or to the back. With version 5.0, XPress will offer users modern, flexible layers capability. Rather like the layers in Adobe Photoshop – or indeed InDesign – XPress 5.0's layers will allow added flexibility for international multilingual publishing. Quark's beta Babel XTension – available from www.quark.com – is also aimed at this market.

XPress 5.0 will also follow InDesign's lead with built-in professional PDF export.
Product manager Don Lohse brushed off criticism that Quark was anti the Adobe technology as "utter hogwash".

Version 5.0 will also export pages as HTML 4, supporting Cascading Style Sheets. (The present free HTML Text Export XTension is text-only.) The new function is "not designed to be a full WYSIWYG Web editor", explained Lohse, but a useful assetmanagement tool for repurposing XPressbased content.

The greatest challenge, he added, was improving XPress's table-creating capabilities. Version 5.0 will make adding graphics and linking "live" data from external databases "less daunting". Lohse praised Microsoft Word and Adobe FrameMaker's table editors.

## Standards issue

Lohse said that Quark has some concerns regarding the Adobe-developed Scalable Vector Graphics (SVG) standard, although the company is working on SVG support to match its recent adoption of Macromedia's Flash technology.

Quark will, however, "support industry standards", for example working closely with Apple, building ColorSync compatibility into every aspect of XPress.

XPress 5.0 goes into beta testing "later this year", Lohse told *Macworld*. He stressed

version 5.0 will undergo "exhaustive testing" after the buggy travails of XPress 4.0. Only then, Lohse promised, will XPress 5.0 be released. He estimated that it should be ready sometime next year.

"The most important factor is stability", said Lohse who also revealed that a 4.06 free update would be released "this summer". (4.0.5 was a Japanese-only update.)

■ An independent report from Pfeiffer Consulting claims that G3 Power Macs used with QuarkXPress 4.0 are "up to three times faster than previous publishing solutions". The report, commissioned by Apple Computer, also benchmarked QuarkXPress 4.0 and found it to be nearly two-and-a-half times faster than version 3.32 on a 604e-based Power Mac 9600/350.

Quark has also announced the availability of a QuarkXPress 4.0 upgrade bundle of QuarkXPress 4.0 bundled with Extensis QX-Tools 4.0 (see Product News, page 37). – Simon Jary www.pfeifferconsulting.com

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## product news

## New G3 PowerBooks super-model skinny

pple remained decidedly mum about its consumer notebook during its Worldwide Developers Conference in San Jose, California, but interim CEO Steve Jobs used his keynote address to unveil some significant enhancements to the company's professional PowerBook G3 line.

Jobs said the 400- and 333MHz PowerBook G3 models – available for £2,399 and £1,699 respectively – are 20 per cent thinner and 2lbs lighter than Apple's current models. He praised the new devices' 5-hour battery life, up from 3.5 hours with the current PowerBook G3, and characterized the models as the fastest, lightest and longest-running notebooks in their class.

The new models – which will include copperprocess versions of the G3 chip – feature MPEG built into the logic board, eliminating the need for a separate card. New video-acceleration hardware brings the laptops' video-playback capabilities close to desktop performance.

The engineers credited the new systems' 5.9-lb weight on lighter plastics used throughout the systems' chassis. However, they cautioned that the new design includes variant die sizes that will prevent current PowerBook G3 owners from using their older batteries, drive modules and other hardware add-ons within the new notebooks. There is no floppy option for either new PowerBooks. Apple announced that a 10GB hard drive, a DVD-ROM upgrade and third-party features such as Zip and SuperDisk expansion-bay modules from VST Technologies will be available as build-to-order options via the Apple Store.

Other enhancements include the ability to run an external monitor with the PowerBook lid



### Coffee-coloured keyboard

As revealed in last issue's Macworld, Apple's translucent colours make a subtle appearance on the new PowerBook with attractive Mocha-tinged see-through keys. The lid's Apple logo also lights up!

closed and activity-tracking capabilities built into firmware that allow the processor to rest between keystrokes and power down without needing to wait for instructions from the OS.

## **New chapter**

The back of the new PowerBooks includes a pair of USB ports, a SCSI interface, a port for the internal 56Kbps modem, 10/100Base-T ethernet, and VGA and S-Video ports. For FireWire connectivity, Apple recommends using Newer Technology's FireWire To Go PC Card.

Both new models will ship standard with 14.1-inch active-matrix TFT displays and 64MB of RAM, which can be expanded to 384MB. Each includes an ATI Rage LT Pro video controller and 8MB of video RAM.

The 400MHz model will include 1MB of L2 cache, 6GB hard drive and 2x DVD-ROM drive. The 333MHz configuration will come with 512K of L2 cache, 4GB hard drive and 24x CD-ROM drive. – Matthew Rothenberg & Philip Dyer

## Read our review of the new G3 PowerBook on page 50

## Eizo i options for USB and audio

Eizo is now shipping the FlexScan T550, its new flat 17-inch CRT monitor. Priced at £369, the monitor has a recommended resolution of 1,024-x-768 pixels, a refresh rate of 101Hz and a dot-pitch of 0.25mm.

A one-touch Auto Adjustment feature means the monitor can be easily set up and its digital signal processor corrects screen distortion and creates the optimal picture, regardless of input signal.

An iSound unit, equipped with two speakers and a microphone, is an optional extra – as is the iStation, an attachable USB hub unit.

PDS, 01483 719 542



All prices exclude VAT Macworld JULY 1999 35

## product news



## **Projector selector**

Hitachi's new portable multimedia projector, the £4,500 CP-X935, produces a 700 ANSI Lumens display and has a contrast ratio of 200:1.



Two RGB inputs, two audio inputs and a video input allow any combination of Macs or video to be connected.

control sequentially reveals horizontal sections of the projected

Hitachi, 0181 849 2000

## Que! What a scorcher!



The fururistic £239 Oue! Drive is a Rewritable CD drive that can match any of the new iMacs and G3 Power Macs.

The USB device offers 4x write and 2x rewrite, 8x read speeds, and a 2MB RAM buffer

CompuB. 0800 018 6625

## Be Found with...

VSE's Be Found is a shareware application for submitting Web pages to search engines. It offers a search engine submitter, a keyword finder, an FTP client and a META tag manager. To ensure a high position in listings, Be Found finds keywords and adds necessary META tags to a Web page. The standard version costs

\$19.95, while the pro version unlimited profiles - costs \$49.95. Check out this month's Macworld CD. www.vse-online.com

## Spressa USB CD-R

Sony has unveiled the Spressa CRX100EX-RP, a £255 USB CD writer. The external drive offers 4x CD-R writing, 2x CD-RW writing, and 6x CD reading. It ships with Sony Discribe CD formatter software and Dantz Retrospect Express backup software.

Sony, 01932 816 660



## Apple guns for iMac-loving **Generation Y**

t Apple's Worldwide Developers Conference, head of sales Mitch Mandich stood before a giant screen featuring two surly looking pre-teens, arms folded, smirking at the camera. Across the BusinessWeek cover replica were the words "Generation Y".

It's the generation that's swapped out khakis for cargos, Levis for Tommy, and Nike for Adidas. Now Apple is hoping these children of the baby boomer generation will replace PCs with the Mac.

"They're computer-literate... and learning on the iMac. You can reach this generation with new products," Mandich told developers.

Right now, the not-so-secret weapon for doing this is the multi-hued iMac, which grabs attention with its candy-coloured coating and matching peripherals. In the future, the instrument will be sophisticated G4 machines, specially designed to handle heavy-duty applications such as audio, video and games.

## Are tangerine iMacs cool?

Apple didn't say exactly how it plans to target boomer babies, but it already is infiltrating their world. MTV, for instance, runs ads that refer to the cool kids who buy tangerine iMacs.

"We're in the culture," Mandich said proudly, showing off the ad. He claimed Apple had nothing to do with the campaign.

Now instead of just weaning PC users off their machines, the company also is focusing on getting a whole new generation of computer users to jump on board the Mac train. And that might be a better use of energy. After all, only 13 per cent of iMac buyers are Windows defectors, while 32 per cent are first-time computer owners, according to Apple's latest sales figures.

"It's a brilliant strategy," said long-time Apple watcher Tim Bajarin, president of Creative Strategies. "Basically, Apple ends up with this whole youth market to themselves."

But pitching to the Generation Y market - kids between the ages of 6 and 20 - is a tricky proposition. There are 60 million of them, and they have more spending power than any young generation before them. But, in the end, parents

still decide big-ticket buys such as computers. In a sense, history may be repeating itself.

The education market always has been a strong one for Apple. In the early 1980s the company landed in many a home - and some offices – by pushing the machines to college students. The plan didn't pan out, as PC makers began churning out computers with a friendlier face, Apple lost much of its place in



businesses, and Mac prices rose beyond the reach of many consumers.

Now Apple is trying its strategy again, through both schools and shops, although it has indicated it will keep prices lower this time around. It's hoping to parlay its success in US schools where it holds about a 25 per cent share - into the home market, a plan that analysts say is only logical: "That's always been a good long-term strategy to build markets - get 'em while they're young," said analyst Lou Mazzucchelli.

Mazzucchelli said the iMac fits in well with the media-savvy Gen Yers. "The iMac is colourful and real easy to use," he said. "Yes, there are more Windows machines out there, but you still have the blue screen of death."

Apple also has been actively luring game makers back to the platform (see right).

## **Get connected**

Being connected to the world around them is the definition of Generation Y, according to a study of kids and digital media performed by marketing company, Saatchi & Saatchi.

Interviewers surveyed and observed 200 kids ages 6 to 20 in the United States. The study found that kids believe knowledge is powerful and are more optimistic than preceeding

By positioning the iMac as the easiest way to connect to the Internet and the icon of its Think Different campaign, Apple is playing right into their hands.

Generation Y is less brand-loyal than other demographic groups, which is good news for underdogs like Apple. Already, they've left Levi Strauss reeling by ditching its jeans in favour of lesser-known brands. Levi has closed plants and cut jobs because of declining demand.

But the study said kids today also are more verbally and visually sophisticated than previous generations – in part because many have grown up with computers. Therefore, marketers have to be careful not to talk down to them.

The Saatchi & Saatchi study suggested edgy, fun campaigns based on more than just a product - campaigns that tie into the kids' lifestyles.

"Don't build a brand for them," the study suggested. "Rather, build a brand with them."

To do that, analysts said Apple has to keep innovating, churning out machines the kids deem cool. It also has to hope its rivals don't catch on.

"The PC makers aren't doing it yet," said Bajarin, "Think about their beige boxes - they're still square." - Lisa Bowman



## E3: Mac's entertainment!

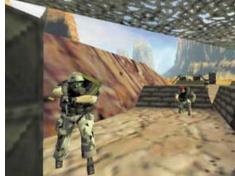
## OpenGL means more Mac games

f this year's E3 (Electronic Entertainment Expo) conference in Los Angeles is any indication, the long-suffering Mac market is well on the way to recovery. Of course, the PC and console games are still the biggest attractions at the show, but the number of Mac titles has increased dramatically over recent shows. Perhaps no Apple initiative has been more effective than its decision to adopt OpenGL as its 3D graphics standard.

OpenGL is the primary reason Mac gamers will be able to enjoy the biggest PC role-playing game of 1999 - Sierra On-Line's Half-Life (right) - on their preferred platform. InterPlay's **Descent 3** is also an OpenGL windfall for the Mac. set for simultaneous release later this year. These games, plus the longawaited Quake II and Quake Arena, are coming to the Mac as a direct result of the new OpenGL standard. Apple released an updated version of OpenGL at its Worldwide Developers conference. which you can download at www.apple.com.

In addition to these OpenGL-inspired ports and simultaneous releases, a number of other new Mac games were introduced during (or leading up to) this year's expo. The most significant might be Madden NFL 2000, because it is the first major US sports game (meaning baseball, American football or basketball) to be released on the Mac in recent memory. Sports games do not have as great a saturation in the gaming market as more traditional action and adventure games, so publishers would not release a sports game here unless they were satisfied with the size of the Mac installed base.

Other games introduced at or leading up to this year's E3 conference include the following: the Star



Wars-related titles Pod Racer and The Gungan Frontier (see Macworld's CD for a demo): The Fallen. a Star Trek Deep Space Nine game by Simon and Schuster that uses GTInteractive's Unreal engine (due by end of 1999); Deer Avenger II and Sabrina the Teenage Witch II, also by Simon and Schuster (due this autumn): **Flv!** by Gathering of Developers (following on the heels of its Railroad Tycoon II

Nobody is going to accuse the Macintosh of being the premier platform for gaming enthusiasts, but a trend is definitely in development.

Any game publisher that supports OpenGL will easily be able to bring its game to the Mac and PC at the same time. This allows them to make a single marketing push for the game, rather than a big PC campaign followed by a smaller or non-existent Macintosh one months or years later.

It is now finally economically feasible for game developers to publish Mac games in a timely manner. The end result will be more Mac games and



release); and **Diablo II** by Blizzard (due by year-end).

more simultaneous game releases. - Philip Dyer MW



Bungie's **Oni** is a combat game featuring weaponry and hand-to-hand fighting, due for the Mac at the end of the year.

## product news

## pricing update

## **Quark bundles tools**

Ouark is offering a OuarkXPress 4.0 upgrade bundle, including Extensis OX-Tools 4.0 and the PhotoDisc Starter Kit for £369. Extensis QX-Tools 4.0 extends QuarkXPress 4.0 with tools for importing printable files such as Excel charts, EPS and PDF files; resizing groups and assigning objects to layers. The PhotoDisc Starter Kit features 3,200 best-selling images on CD and in a 250-page Resource Book. Quark, 01483 445 566

## **Hub stacks less cash**

Entrega has dropped the price of its multifunctional hub The hub has seven ports: four USB, two serial and two parallel. The new price is £16 cheaper, at £68. The iMac-style hub is designed for stacking, so that you can connect up to 127 USB peripherals to the Mac

Entrega, 0118 951 9549

## ScanMaker free

Microtek is bundling a free ScanMaker 35t Plus film scanner, worth £299, with its ScanMaker 5 flathed scanner. The 35t Plus scans 35mm transparencies with an optical resolution of 1,950dpi and 30-bit colour depth. The ScanMaker 5 dual-lens scanner, aimed at professionals offers an optical resolution of 1,000-x-2,000 dpi. The bundle, including SilverFast software, costs £1,599.

Microtek, 01908 317 797

## **XLR8 USB goodies**

Interex Europe has announced the XLR8 MACh Speed G3 Performance Package, costing the same price as a normal upgrade. Any user who purchases a 300MHz or above MACh Speed G3 or G3Z card until August 1 qualifies to receive the bundle. The package consists of a DualPort USB expansion card, the XLR8 Point&Scroll LISR mouse and PowerControl 3.0 "trouble prevention" software with PowerFrax. Prices start at £349 for a 300MHz card.

Interex, 01923 290 401

Macworld JULY 1999 Teen pics courtesy of PhotoDisc. All prices exclude VAT All prices exclude VA Macworld JULY 1999 37

## product

## New Mac CDs

## **Mod music**

SampleZone has released four music sample CDs in the "Modular series" from Beatnik. The CDs take in Psychedelic Trance and Goa, Big Beat and Electro, UK Garage and Drum and Bass and cost £39.95 each. Each title comes as two CDs – one with the samples in standard audio file format and one with the samples stored as .wav files, so that they can be changed and used in different ways.

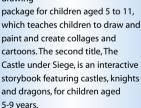
SampleZone, 0800 731 2939

## **KeyStone swots**

KeyStone, the software training company, has launched its range of training CDs and videos in the UK. Recent releases include QuarkXPress 4, which comes on video and in three different skill-levels. The videos feature qualified trainers offering plenty of tips not found in the manuals. They cost £70 each, or £178 for the set of three. **KeyStone, 0171 349 3300** 

## A king's Ransom

Ransom is shipping two new CD titles for children, both costing £20.Tom Paint: Drawing with Thomas the Dragon is a drawing



Ransom, 01491 613 711

## Puzz-zzzzz-les

Huggly's Sleepover and I Spy, two new Scholastic CD titles, are shipping from Ablac Learning. Huggly's Sleepover is aimed at 4-6 year-olds and is a narrative adventure designed to build academic and social skills through fun activities.

I Spy uses puzzles, games and picture riddles to develop the cognitive abilities of 5-9 year-olds.

Ablac, 01626 332 233

## Publish and be Flash-ed

lash 4, the latest version of Macromedia's solution for designing vector-based Web sites, makes use of the highly controversial MP3 audio format and is aimed at repurposing publishers. Enhancements and new features include Edit Text Fields, enhanced bitmap support, and better asset management.

MP3 compression means that long-form animations can be created with voiceovers and background music, while keeping files small enough for low bandwidth delivery. Compressed MP3 audio can be applied to animation or buttons by visually synchronizing animation frames to streaming audio using the Timeline.

The new Edit Text Fields can be placed within any Flash movie, allowing viewer input to be gathered and sent to the Web server. They can be

## TC lets Sparks fly

C Works has released Spark, a new program for audio-editing and processing, sound design, file-management and CD mastering and burning. Spark (£299) features up to 24-bit audio-

resolution at 96MHz, complete VST plugin compatibility and support for most major samplers.

It supports AIFF, Sound Designer, WAV and QuickTime file formats, and includes standard DSP processing tools such as Normalize, reverse, Fades, Crossfades and Sample Rate conversion.

The browser window is the integrated workspace for wave editing, project file-management and play list, while real-time effects' routing and master-level controls are accessed from a Master View window. VST-compatible plug-ins, such as Reverb, FuzzSat, and Modulated filter are also included. Arbiter Music, 0181 970 1909



used for Web site password fields, automatic font substitution and text replacement.

Animation enhancements include an optimized, dockable Timeline with a new Create Motion Tween feature, which automatically creates keyframes. The new Outline Colours mode makes it easier to distinguish between layered objects on the screen, and the smart guide layers allow motion-tweened objects to automatically snap to a drawn path. For simplified asset management, the Library has been improved with sorting, grouping and usage tracking features.

Designers can now take advantage of the new Publish command – a single step process for exporting files for multiple mediums (Web, broadcast, CD) without having to use multiple export commands. The properties of each media type can be customized, and designers can choose the way in which HTML syntax is written.

Flash 4 ships for £199. If downloaded from the Internet, the cost is \$269. Upgrades cost £79. **Computers Unlimited, 0181 358 5857** 



Taking a leaf out of Nokia's book, Techworks embraced its customers with curved USB hubs that come with removable iMac-coloured tops. Colour-co-ordinated USB cables are also available. The £40 PowerUSB M-hub offers one upstream and four downstream ports.

Techworks, 01753 898 500

## Sharp's Project XGA



**S** harp's high-spec £5,000 NoteVision 5 projector offers native XGA resolution (1,024-x-768 pixels) and a 600 ANSI lumens lens. It has fully automatic adjustment for any video or Mac input, intuitive manual zoom and focusing system and two remote controls. When the projector and screen are at different heights, a Window System adjusts the image into a trapezoid to compensate.

The £3,500 NoteVision 4 also offers 600 ANSI Lumens and also has intelligent XGA-compression. **Sharp, 0800 262 958** 

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## MetaCreations adds clothes, brushes and robots to top figure generator

B acking up reports that post-Kai Krause (see *Macworld*, June 1999), MetaCreations is concentrating on high-end, professional tools, is the powerful new upgrade to the company's 3D figure-posing and animation tool. Poser 4, expected to be available at the end of June, enables artists to pose and animate human figures in their work.

Among its new features, Poser 4 can: change characters' clothing; add animated deformers for creating custom "sculpted" features on figures; give more detailed and varied human and animal models; and has advanced texture controls, including transparency and reflectivity.

Poser 4 includes advanced lighting, cameras, and even single-track sound capability for lipsynching characters' voices. Figures now have wardrobes of changeable 3D clothing. You can choose from tops, trousers, skirts, shoes, hats and even poseable hair to tailor Poser figures to specific projects. All clothing adheres to body movements, even when animated.

With Poser 4's new Magnetic and Wave Deformers, users can sculpt 3D figures by bending, stretching and pinching body and facial surfaces. Users can generate morph targets or animate magnet effects to create a bounce or ripple effect.

The maker of Painter has added natural-media



Robo posers

In addition to high-resolution human models, Poser 4 also includes three fully articulated, incredibly detailed robot figures.

rendering effects that give Poser figures the look of hand-drawn art. 3D human figures now have extra detail for more realistic posing. With new morph target sets, users can create custom characters with unique facial features or ethnic diversity. Texture coordinates have been entirely re-projected to increase facial detail for additional realism. New polygonal picking and grouping, and hierarchical selection tools allow users to import 3D geometry, break it into body parts and then generate new figures with Inverse Kinematics, all within Poser 4.

The UK price is expected to be £199 or less. **Computers Unlimited, 0181 358 5857** 

## product **news**

## CanoScan? Can now

Canon has announced the arrival of the CanoScan FS2710, a 35mm and Advanced Photo System film scanner. The 36-bit scanner is aimed at the home, small office and business user and is priced at £499. It features a 2,720dpi 3-line CCD image sensor and is bundled with Adobe Photoshop LE. Canon, 0121 680 8062

## **Loud hailer**

Arowana has introduced the most powerful speaker system in its range – the SW-20. The 800-Watt sub-woofer speakers feature 3D surround sound, independent volume control, bass and balance controls, headphone jack and microphone bypass. The units, which cost £59, are also magnetically shielded, protecting Macs and monitors from the magnetic forcers larger speaker systems can generate.

### POSO, 0121 524 1788

## Mathematica 4

Wolfram Research has unveiled Mathematica 4, a new version of its calculation and maths-visualization tool. Fast new internal algorithms, increased capabilities for importing and exporting, and new document-processing features are all on offer in the latest version. There is now support for handling computations in specified algebraic domains, and 100 new or enhanced Mathematica functions. Mathematica 4 is priced at £1,095 for commercial licences, and upgrade, academic, network, and sitelicence discounts are available.

## Wolfram Research, 01993 883 400

## **Racing Pulse**

TDK is now shipping GlobalPulse, a software modem that lets you connect a Palm organizer to a Nokia GSM phone. The £69 GlobalPulse uses a cable to transfer the data between the Palm and the GSM handset. It works with Palm III, IIIx and V and with the Nokia 51/61xx phones and

variants such as the Orange nk402 and nk702. You can send and receive email, connect to the Internet and use Short Message Service.

0118 921 6230



All prices exclude VAT 39



## first contact

## David Fanning

The vision of a lead-free computing existence is upon us – probably.

## Unwired generation

pple was the first computer to ship with networking as standard. The first Mac had AppleTalk, and it was some years before anybody else boasted something similar built-in. Even today, home PCs have no out-of-the-box networking – but things are changing.

Every Mac still has networking. If you buy a Mac today it will come with 100Base-T fast ethernet – and the next step is just around the corner. In a few years, connecting to a network via a cable will seem outdated and restrictive: a bit like being shackled to your desk. Pretty soon, networks will be wireless affairs, with all the freedom to compute and collaborate wherever you are.

I don't necessarily mean wandering freely around your office with a PowerBook and sharing files. I mean real freedom – like taking you machine on holiday and still being connected to your office network.

OK, that's a bad example. How about kids on a school trip taking their consumer portables to the museum and sending pictures and reports back home to Mum, or even to granny's iMac.

The new slimline PowerBook shows the power and freedom available to mobile users. Ten hours of work without a pit stop, running at speeds rivalling the fastest desktop machines. All this at a price less than you might have paid for an LCD screen a year ago.

The attraction of mobile computing has never been greater. Instead of wishing for a bigger, faster, more powerful machine, you should be happy that you can fit your work on a 14.1-inch screen.

All you need to pester your boss for is a 400MHz G3 PowerBook G3. Keep the DVD movies a secret, and you might just get away with it. Especially when the gaffer knows that you can always be at least "virtually" in the office via a wireless network.

But if your manager isn't understanding – or is unwilling to give you the freedom to take to the road – another option is rapidly approaching.

The long-awaited P1 consumer portable should be shown at the New York Macworld Expo in July. This is, of course, subject to Mr Jobs deciding the time is right and everything is in place. It wouldn't be the first time "imminent" technology failed to ship. But we haven't been given a date,

so we can't complain. But assuming all goes to plan
– my plan, that is – the P1 should be out soon.
Here are some of its (guessed) highlights:

- It will look stunning. I have a good idea that it will be thin as thin as the Vaio, even. It will also be translucent and available in the five iMac colours. The screen won't be as big as the PowerBook, but it will be detachable for presentations or show-&-tell.
- It will have wireless networking, but just not for us yet. It's been a badly kept secret that that Jobs wants wirelessnetworking for Macs. Initially, it's likely to be limited to major US cities, but it's likely to be available in the UK before it hits the backwaters of Idaho.

If you think this sounds too pie-in-the-sky and futuristic to be credible, I should point out a couple of things.

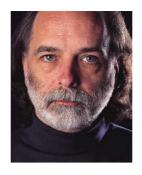
First of all, the new Palm VII computer from 3Com boasts this feature – and is available in 260 major cities across the US. Also, it is almost the year 2000 and it's only natural that we have mind-bogglingly fast, wireless, paperback-sized computers linked to a worldwide network. This is basic science fiction – but it's about time it was science fact.

You can be forgiven for thinking that all this is fine and dandy if you happen to live in one of the 260 most-populated cities in the US. But what about coverage in the Isle of Wight? It's a fair point. Maybe it should be filed under "Too good to be true" for now.

Consider this though: mobile telephones and pagers are far more common in the UK than in the US. It's a fact that the European market is a step ahead of the US with mobile computing.

Already, GPRS (General Packet Radio Service) is being tested in Europe. This is a wireless network protocol that allows constant data-connection over the GSM telephone network. This is just the first step in moving towards UMTS (Universal Mobile Telecommunications System) – which offers super-fast network speeds, along with go-anywhere computing.

You could be sunning yourself in the park while downloading files from the Internet at speeds of up to 2Mbits per second. That's fast enough to watch a full-screen, streaming QuickTime movie. It sounds idyllic. I see the sun's out. I may just trundle down to the park – and make the most of an unwired lunch break.



## Michael Prochak

.... on the late Michael Prochak.

## Apology of an offer

orry, but you're just going to have to read this month's column next month. I know this may appear a bit post-modern and may even cause a slight time aberration or a massive fluctuation in adjacent tachion fields. But don't blame me...blame Apple and its latest G3 "offer".

A few months ago, a musician friend mentioned that he wanted to buy a second-hand Mac with a huge screen and loads of memory. The only problem was – as with most musicians – he didn't have any money. However, he said he was expecting some "over the next few weeks" and, since I had been drooling over the new blue G3s at the time, I made the impulsive suggestion that he might want to buy my second-hand Mac – with its huge screen and loads of memory. I figured that, by the time he came up with the money, I might be able to stretch the overdraft just enough to afford the necessary extra to get some sort of G3 system and we'd both be happy. I also figured that my friend wouldn't get the money sorted all that quickly so I didn't really give the matter much serious thought.

Some time later, I got hit with one of those genuine howlers that has an energy all of its own. Without going into the deeply political - and almost certainly corrupt screed that a magazine like Private Eye would simply kill to get its hands on, let's just say that a contract that we thought we had with a high-profile government organization that was supposed to run until the end of October was suddenly and inexplicably cancelled, and awarded to a small specialist software company, with what one might mistakenly construe as a massive conflict of interest - and an even larger supply of plain brown envelopes. Although there is absolutely no evidence or credible rumour that the whole project may go sideways at any moment, the incident did leave an ugly question mark hanging in the air, as to where my income might be coming from after the end of May. So it wasn't that unexpected that after a whining phone-call from the wild-eyed woman at the Inland Revenue, my musician friend rang up to say that he had the money and could he please have the computer.

Okay, so maybe it wasn't the best time to start thinking about buying a new Mac. But where I come from, a deal is a deal and no matter how vicious and treacherous business gets, it's good manners to keep your word. Besides, I had just noticed that Apple was advertising a 'breakthrough

offer' that promised a free internal Zip drive and 56K modem when you buy a a Power Mac G3 with a 17-inch Studio Display. And what the hell, my bank manager is reasonably easy-going and enjoys his hobby of collecting huge bank charges on my account. So, I decided why not – and promptly bought a G3 with a 17-inch Studio Display. My local dealer, as usual, was quite co-operative and the whole system was delivered, installed and up-and-running the day after I ordered it. Well... nearly.

First of all, the "free gifts" don't actually come with the system. To get your modem and Zip drive, you have to complete a claim form, return a proof of purchase – consisting of a copy of your dated sales receipt showing product purchased, reseller's details, your name and address, and the serial numbers of qualifying products. You also have to send the UPC label from the product box, which you have to cut from the packaging "so that the cardboard where the label is attached has been completely removed". You must submit this with the entire cardboard backing intact. Peeled off labels and labels with only part of the cardboard attached will not be accepted. So, if you don't send back enough cardboard, you're out of luck. On top of that, you have to wait at least eight weeks from the date of posting to receive your "free gifts" and, once you receive them, you still have to take your system back to your dealer and pay for the installation.

Although I did remember to get a SCSI card, I assumed the modem would come with the system. This means that I didn't bother to get a USB-to-serial adaptor so I could continue to use my external modem. This in turn means that, to send this column, I've been rushing about trying to re-configure the old Performa my son uses to run all my preferences, so I could get back on-line to send the copy. It also meant that I had to save the copy to a Jaz drive and then re-connect that to the Performa as well since, as we all know, new G3's arrive sans floppy drive. Ok, so it's marginally more feeble than saying the dog ate it. But it still means you'll have to read this month's column next month - after all the dust has settled and when I've got my complete system up and running. Assuming, that is, that my "free gifts" from Apple have actually arrived. In the meantime, if you want a new G3 and intend on keeping most of your peripherals, don't forget the adaptors. Oh, and remember what they say about a free lunch.

## The Gates conspiracy theorists have a point

## Desktop critic

**DAVID POGUE** is the author of *iMac for Dummies* (IDG Books Worldwide, 1998) and the *Great Macintosh Easter Egg Hunt* (Berkely Books 1998). He also wrote *Macs for Dummies*, fifth edition, newly updated for Mac OS 8, *The Weird Wide Web* (IDG Books Worldwide, 1997). His latest is *The Microsloth Joke Book* (Berkeley, 1997).

## 'Gatesgate' looms

ac fans always joke that Microsoft is the Evil Empire. We call Windows the Dark Side. We make fun of Bill Gates's schemes to take over the world. But I thought we were kidding. Since the government has started taking a closer look, however, a clearer picture of Microsoft's soul has emerged – and it's disturbing. The following embarrassments are just the tip of the iceberg.

## The Phony Grassroots Campaign

In 1998, as 12 states were preparing antitrust suits against Microsoft, the *Los Angeles Times* unearthed a brazen

Microsoft plot to sway public opinion. Microsoft hired PR companies in those 12 states to flood newspapers and the offices of attorneys general with editorials and letters. These letters, bearing ordinary individuals' names but actually written by Microsoft PR staff, were intended to show "grassroots" support for Microsoft; payments were funneled through Microsoft's main PR company so that the cheques couldn't be traced.

According to *Brill's Content* magazine, Microsoft's mediamanipulation attempts don't stop there. Key journalists are courted, given meals and personal invitations to Bill Gates's new mansion; negative reviewers are harangued and

bad-mouthed. ("We really believed in this influencer model", says a former Microsoft VP. "The trade press was worked from every stage.").

Microsoft even hires phony consumers to spread warm fuzzies online – *Brill's Content* describes the ardently pro-Microsoft cybernaut named "Steve Barkto", who claimed to be a technology officer from Oklahoma. How odd, therefore, that he paid for his CompuServe account with a Microsoft credit card!

All of this helps explain why Microsoft has enjoyed such fawning coverage in the mainstream media, whereas every Apple hangnail is a cue for "Apple Dying" articles.

## The phony videotapes

Midway through its antitrust trial, Microsoft attempted to prove the inseparability of Windows and Internet Explorer by showing the judge a video. Fine – except that the government's lawyer noticed that as the tape rolled on, the number of icons on the desktop kept changing. Microsoft

sheepishly admitted to splicing footage from different computers to make its point.

## The phony amnesia

During Bill Clinton's grand-jury testimony, his greatest line was: "That depends on what you mean by 'is'." But in his own taped testimony, Bill G. makes Bill C. look like an amateur, pretending not to know the meaning of words like "market share" and "we", and denying that he wrote emails bearing his signature.

Throughout the trial, in fact, Microsoft reps had enough mental lapses to qualify for disability – and silly excuses to explain them. When Microsoft VP

explain them. When Microsoft VP Brad Chase claimed that Internet Explorer gained popularity because it's so good, a government lawyer showed him a 20-page Microsoft survey. Its conclusion: most people choose Internet Explorer because "it came with my computer". Chase's dubious response: an intern who had no standing at Microsoft created the document.



At www.macintouch.com, you'll find reams of data about the security holes in Microsoft Office. A Word document may invisibly store your name, email, URLs, folder names, and more. This data goes along for the ride when, for example, you email your work to others. (A fix is available at www.microsoft.com/mac). On Windows, the company even

tracks exactly what kind of PC gear you have. *The New York Times* reported that Microsoft Office documents contain a "globally unique identifier" that "can be used to trace files back to a specific person" – indeed, that's how investigators tracked down the author of the Melissa virus.

## The upshot

This stuff is real. Suddenly, the jokes about Microsoft's evil ways aren't so funny any more. Two years ago, I asked a *Wall Street Journal* reporter why newspapers give Apple such a hard time. He told me that coverage goes in cycles; Apple was a media darling for ten years during the early Steve Jobs era. Now, he said, it was Apple's turn in the doghouse, and Microsoft's in the spotlight. "Don't worry," he concluded.

"The pendulum always swings back." The funny thing is, those same reporters unearthed every example of Microsoft conspiracy and media manipulation described here. Look out, Bill – the pendulum is swinging.



## reviews

MACWORLD RATING  $\star\star\star\star\star/9.0-10.0 = EXCELLENT$ 

**★★/3.0-4.9** = **AVERAGE** 

**★★★★/7.0-8.9 = VERY GOOD** 

 $\star\star\star$ /5.0-6.9 = GOOD

MACWORLD POLICY

**MACWORLD JACKPOT** 

At Macworld, we don't think our readers should have to worry about whether ratings are based on a real product or a prototype. Therefore, we simply don't rate products unless they are real, shipping versions - the products we rate and review are the same products you end up buying. The Macworld Jackpot gives you the opportunity to win some of the products we review. Simply dial the number indicated on participating reviews. Calls cost 60 pence per minute. Winners are selected by computer the day after the closing date.

 $\pm$ /0-2.9 = POOR

## Digital video-editing and playback



## **QuickTime 4 Pro**

Manufacturer: Apple Computer (0800 783 4846)

## www.apple.com/uk

Pros: Excellent repurposing tool; basic professional quality digital video editing for a fraction of other packages' cost. Cons: No official 'how to' literature. Price: £18.50 (US\$29.95); free if you're upgrading

from OuickTime 3.0 Pro Star Rating: ★★★★/8.7

lthough QuickTime 3's pseudostreaming Fast Start was a clever feature, Apple missed a trick by not including a full live-streaming capability. As a result, Real Networks, the developer of RealVideo and RealPlayer, got there first with its proprietary server software and took a large chunk of the market.

QuickTime 4, now in beta, demonstrates Apple's determination to make up some of that ground – it's the first streaming software to use the industry-standard streaming protocols RTP (Real-time Transport Protocol) and RTSP (Real-time Streaming Protocol). As such, it will appeal to all Web authors and ISPs who don't want to be forced down the Real road, and is likely to put QuickTime back on top as a video/audio standard on the Web.

There are two faces of QuickTime: the basic playback features of the QuickTime Player (previously known as MoviePlayer) with its associated applications PictureViewer and the QuickTime Plug-in; and the more extended functionality of the Pro version.

Upgrading from QuickTime 4 to the Pro version involves registering your copy of the basic software at a cost of \$29.95; the registration code unlocks a whole set of extra features for editing, importing, exporting and adding your own codecs.

Most of these goodies become available through the QuickTime Player window, making the Pro version at first glance indistinguishable from the standard version.

OuickTime 4's new interface look-&-feel is shared with Apple's eagerly-awaited



digital video-editing software, Final Cut Pro - currently only available in the US. It's a smart, brushed-aluminium window style that appears to take its inspiration from a solar-powered wallet calculator.

The QuickTime Player window is a triumph of minimalism. On the unextended window you get the time slider, a volume control, play and stop buttons, two buttons that slide down a more fully-featured controller - including a new graphic equalizer, and an Info panel and a Favourites window where you can store files in any supported format.

The Pro version of the QuickTime Plug-in adds the facility to save movies viewed in a Web page, which saves Web surfers scrabbling around to retrieve movies from their caches.

## **Overlooked capabilities**

One excellent but often-overlooked thing about QuickTime is the fact that it gives you some powerful video-editing capabilities for a fraction of the price of professional software. You can caption and sub-title, add masks and use alpha channels, and add searchable text tracks. You can also work with MIDI data, VR movies, sprites and 3D models rendered by QuickTime. The reason why this is often overlooked is that Apple doesn't supply an official user guide - and OuickTime 4 isn't sufficiently intuitive that a morning's

### Palmton window

The new QuickTime 4 interface shares its look-and-feel with Apple's Final Cut Pro.

pottering will show the basics.

To get to grips with all the editing functions you have to buy yourself a third-party 'how to' book such as Stern and Lettieri's Visual Ouickstart Guide to QuickTime and MoviePlayer Pro (Peachpit Press), sadly not yet updated for QuickTime 4. The lack of a user guide is a major oversight on Apple's part, especially now OuickTime Pro is no longer free: thousands of amateur Web authors could be forgiven for feeling a bit disappointed at having to fork out for a book that tells them how to use their newly purchased software.

The editing facilities in QuickTime Pro haven't been significantly extended for Version 4 (Apple is presumably being careful about QuickTime treading on Final Cut's toes)

One important new feature, however, is the multi-format editing capability, which allows you to add, and composite together, tracks containing media in any supported format. There's also support for Macromedia Flash files: the QuickTime Player will open them and reproduce the full range of Flash interactivity.

The Player also has three new effects - brightness and contrast, lens flare and a zoom – and the blur and sharpen effects have been speed-bumped and given new options.

There's also a new slider control that is supposed to make it easier to select sections of a movie for editing. But the sliders, which use word-processor-like margin tabs to indicate the selected area, are microscopic and awkward to move. To be really useful, the timecode indicator should offer the facility to type in the points you want to select.

## Re-purposing tool

Video and audio - compressed using the latest versions of the Sorenson video and QDesign Music codecs in QuickTime 4 result in smaller file sizes than OuickTime 3.

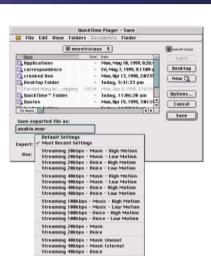
A 480-x-260-pixel Star Wars trailer with

44KHz stereo sound, for instance, took up 4.1MB as a OuickTime 4 file, but 4.7MB as a QuickTime 3 file with 22KHz stereo sound.

QuickTime 4 now supports 13 different video codecs, including a new facility for exporting to DV format. And with the addition of a wide range of audio codecs, Version 4 takes QuickTime way beyond being 'just' a video application.

Audio codecs now include QDesign Music 2, Qualcomm PureVoice and a playback-only version of MPEG Layer 3 (vou can encode MP3 using Media Cleaner 4 Pro with the Fraunhofer Institute's MP3 Encoder)

Via a plug-in architecture, QuickTime 4 also supports an additional range of other encoders, such as Intel's Indeo 5. To add to this, you can open a huge range of still picture, video and sound formats in QuickTime 4 Pro, including GIF, JPEG (with CMYK support in Version 4), MIDI, MOV, AVI, WAV, BMP and Macromedia Flash files.



This widest-ever range of supported file formats and codecs makes QT 4 Pro excellent as a re-purposing tool. A capability underpinned by the new

### Palmton window

The Export function in QuickTime 4 features a list of the most popular Web-appropriate presets.

Export pop-up menu with its list of the most popular Web-appropriate presets for fast re-purposing saves.

The QuickTime 4 beta is remarkably stable, although there's still a handful of glitches here and there. At the time of going to press, there was no indication of when the full release is due out.

## Macworld's buying advice

For basic video, sound and animation compositing and editing, you can't do better than QuickTime 4 Pro, and its capabilities as a repurposing tool are unsurpassed.

Just be prepared to spend the same amount you spent on the software getting hold of a 'how to' guide if you want to edit your movies. Karen Charlesworth

## New era in networking



## **OS X Server**

Manufacturer: Apple (0870 600 6010) www.apple.com/uk

## Pros: Pre-emptive multitasking;

protected memory: multiple network interfaces. Cons: Mediocre performance for file and Web serving: incomplete graphical interface: incomplete documentation

Price: £ 349; £3,500 with Power Mac G3 server. Star Rating: ★★★/6.5

common conversation starter among Macintosh server administrators is "The Mac would be a great server if only...". If only it had pre-emptive multitasking. If only it supported multiple network interfaces. If only it supported remote clients. Mac OS X Server is Apple's answer to the "if onlys". A completely different operating system from Mac OS 8.5. OS X Server not only addresses all of its predecessor's shortcomings but also



retains the flavour and familiarity of the graphical user interface we know and love.

Like the end-user version of OS X, due next year, OS X Server features

a completely new (to the Mac) operatingsystem kernel that's based on Mach 2.5 and BSD 4.4 Unix and offers pre-emptive multitasking, protected memory, process management, and standards-based scripting. The server edition, which is geared toward file, client, and Internet serving, includes Apple file sharing, an Apache Web server, WebObjects application-development tools, and a new feature called NetBoot for managing networks of client workstations. This last feature is clearly the most enticing aspect of OS X Server in that it should vastly simplify network administration while lowering deployment costs.

Installing OS X Server couldn't be simpler: insert CD, boot computer, click on Install. A set-up assistant asks you a few salient questions about your network and which OS X Server features you plan to use and then automatically configures the server for you. Once it's installed, though, you'll find that many advanced features use a command-line interface rather than the familiar Mac interface, making OS X Server a challenge to use. (If you spring for the £3,500 bundle – OS X Server pre-installed on a Power Mac G3 - you don't need to worry about installation and you get a handy System Image CD for restoring your system.)

## The new stuff

Considering OS X Server's radically different innards, you're probably wondering about the look-and-feel of its application-level services. It's a mixed bag: from the client's point of view, using OS X Server file sharing is largely indistinguishable from using AppleShare IP, while OS X Apache offers a completely different experience from AppleShare's Web server. NetBoot is an entirely new animal, with no parallels in the current Mac universe.

Users access OS X Server's Apple file services exactly as they have all previous Mac OS file services – by mounting remote disk volumes and using them as if they

Reviews continues page 48

Macworld JULY 1999 Macworld JULY 1999 were local. OS X Server uses a Web-based manager that AppleShare administrators will welcome: just point a Web browser to the Remote Administration URL and you can add users, change permissions, and control server performance from any authorized workstation (even from Windows-based systems). OS X Server is not AppleShare IP, however; it lacks printing, email, DNS, Windows filesharing, and firewall functions.

The Apache Web server bundled with OS X Server is a full port of the standard Apache distribution. This means you can run off-the-shelf Apache enhancements, download new Apache Group updates, run Secure Sockets Layer (SSL) encryption, and support multiple Web sites, although none of these features are easy to exploit.

Apache isn't Mac software, and Mac zealots will find a lot to complain about with Apache's administration, especially compared with that of other Mac-savvy Web servers.

Although Apple includes a set-up assistant to help you perform basic Apache configuration chores, serious users must resort to old-fashioned text-file editing to configure advanced features such as SSL encryption. Fortunately, Tenon Intersystems is working on a graphical interface and SSL overlay for OS X Apache that will address these shortcomings.

NetBoot lets you remotely boot Macintosh G3 computers from an

OS X server, using the server as the sole source of such resources as application programs, printer access, and disk storage. (This feature requires a firmware upgrade on older G3 Macs.) A special Macintosh Manager deputizes a specific client machine as an administrator, from which you then establish basic NetBoot parameters and the network topology. When you boot a client Mac from an OS X server, the client prompts you for a user ID and password and then establishes remote access to resources - preferences, desktop organization, OS configuration, and server volumes - for that user. Thus, you can log onto any client Mac via Macintosh Manager and access your personal computer. NetBoot makes central-site administration easy, reduces the cost of client computers, and improves overall network security by offering a single point of control.

## How well it works

Macworld Lab compared OS X Server's file-serving performance with that of AppleShare IP 6.1 and Microsoft Windows NT Server 4.0. We found that OS X Server makes a mediocre file server, capable of handling more users than AppleShare IP but generally taking twice as long to move files. Still, OS X Server was almost twice as fast as Windows NT Server (when running AppleShare on Windows NT; OS X doesn't support Windows file sharing). You won't want to run OS X

Server if you need stellar file-serving performance, but if you're using it as a NetBoot server, you'll find the concurrent file serving a great convenience.

We tested OS X Server's Web-server performance against that of Tenon's WebTen 2.11, Windows NT Server 4.0 Internet Information Server (IIS), and Sun Solaris 2.6. OS X Server's Apache is a decidedly slower Web server than WebTen running under Mac OS. With ten or fewer users, the two performed comparably, but under heavier loads, WebTen served up to 40 per cent more requests per second. OS X Server's performance was similar to that of Solaris running Apache, but the large-scale, multiprocessor NT Server IIS far outstripped OS X (a smaller NT Server configuration comparable to the Mac tested wasn't available at press time).

## Macworld's buying advice

With performance numbers well below those of traditional Mac OS servers, Mac OS X Server really isn't a contender in transaction-intensive environments; stick with AppleShare IP and WebTen for file and Web serving, respectively. But as the herald of a new era in Mac networking, OS X Server's NetBoot feature promises to simplify network administration vastly – while giving users new freedom from their physical desktops.

**Mel Beckman** 

## Wonderful iMac how-to tome



## **iMac for Dummies**

Manufacturer: IDG Books (0181 231 6661)

Pros: Straightforward, clear explanations, with a generous dollop of wit.

**Cons:** Its non-translucent banana-yellow jacket doesn't blend with Bondi Blue.

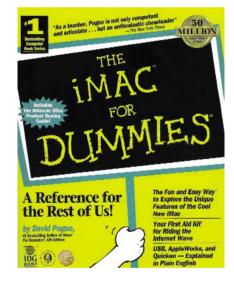
**Price:** £18.99; Macworld subscribers can buy it for £14.99 – see pages 154 and 155.

Star Rating: \*\*\*\*\*/9.4

elia Smith recently published a book entitled *How to Cook* that, with its explanation of how to boil an egg, was slated by food snobs as a sad sign of the times since it largely stated the bleedin' obvious.

David Pogue, it seems to me after reading *iMac for Dummies*, is the Delia Smith of the Mac. Not because he states the bleedin' obvious, but because he explains things to the layman with such breathtaking simplicity.

Before reading his book, I had owned an iMac for four months, having used a PC at work. I had considered myself a stylish sort of chap for my choice of computer.



I had written the odd letter, I had searched the Internet on various depraved occasions and I had used the thing as a rather expensive CD player. But there I had struck a dead end. Apart from the sort of see-throughness of my Bondi Blue iMac – the thrill of which has long since faded – I was stumped for answers as to what was so special about my purchase.

And the blame for that must surely lie with Apple. Easy though it is to use, if the company doesn't provide even the most cursory manual, the target audience – those of us who have never used a Mac – simply

don't know what it's capable of. Mine had been used like a Ferrari that's trundled out for the school run.

Last month in *Macworld*, Simon Jary applauded Apple's decision not to include a how-to book with the reasoning that experienced Mac people would then be subsidizing the novices. He said we should all go out and buy a book instead, recommending Pogue's *iMac for Dummies*.

He was right. In my small experience of computer manuals, they're not generally a light, informative read. But Pogue's book made me excited to use the iMac again. It's the most straightforward manual of any description that I've ever used. Its beauty is in the way that it can be dipped into at just about any point without having read other sections. His tips – like Delia's – always work and his troubleshooting explanations are clarity itself. *iMac for Dummies* is required reading for any iMac novice.

Wonder what his omelettes are like... **Chris Hayes** 



## Win

... One of five copies of iMac for Dummies with Macworld Jackpot. Ring 0900 1010 241 before July 14.

continues page 50

## Super-slim, super-fast PowerBook



## 400MHz PowerBook G3

Manufacturer: Apple(0870 600 6010)

www.apple.com/uk

Pros: Fast; beautiful; thin and light. Cons: Portables can never be too light. Price: 400MHz model (tested), £2,399; 333MHz model, £1,699.

Star Rating: ★★★★★/9.1

ne latest PowerBook to be released by Apple has made small but significant steps to keep up with the competition. The most obvious difference to the PowerBook G3 is the size – it's 20 per cent thinner and 2lbs lighter than its older brother. That may not sound like much, but when you pick it up you realize the real difference between bulky and petite.

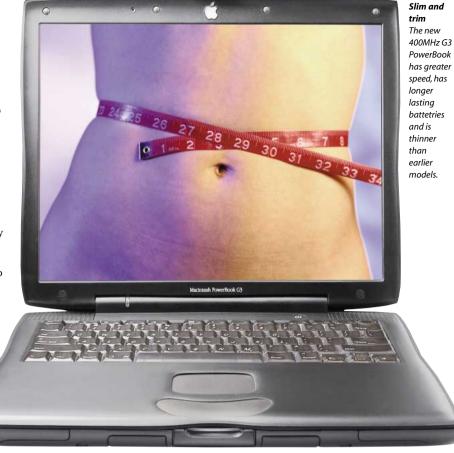
There are other cosmetic changes - which we'll look at later - but the technological advances are inside. The processor has jumped to 400MHz, which is a significantenough improvement to make even recent G3 PowerBook owners consider the upgrade.

But perhaps comparison with older PowerBooks is a little unfair. This machine is so fast that you're better off comparing with the desktop G3 models. The fastest Mac currently available is the blue-&-white G3 with a 400MHz processor - in our overall scoring system this machine achieved a MacBench 5.0 score of 1,912. This super waif could not match that, but it still clocked a staggering score of 1,705 – a fraction slower than the 350MHz desktop version. If you ever needed an excuse to ditch your desktop machine and go mobile, this is it.

Other things to make the transition to mobile computing include dual-display and mirroring capabilities. This means you can have a good-sized screen when you are at your office base, and use other people's screens for presentations on the road. The video controller is the ATI RAGE LT Pro, with 8MB of video memory - a light version of the mighty RAGE 128 found in the desktop models.

The battery life has been significantly improved by using new longer-life batteries and Mac OS 8.6's much-improved power handling. The PowerBook battery can now last up to five hours – and, if you use both battery bays, you can double that to ten. Using both batteries does mean that you need to take out the DVD drive.

The 400MHz version includes DVD video, even in the UK where localization problems meant we had to go without until now. Rather than using a PC card to decode the DVD MPEG data, the hardware



is actually on the motherboard. This is great for the 400MHz machines, but the 333MHz machine will need a third-party PC card decoder and DVD drive to add this function. Even with a single battery it is quite possible to watch two full-length DVD movies, which should make transatlantic flights more bearable.

Floppy-disk drives are no longer an option. The theory being that if you are still using such ancient technology, you won't be using this cutting-edge machine. A fair point, in my opinion.

If you still require floppies, you can always use the new USB connections available with this machine. These add far more connectivity to the PowerBook, making it possible among other things to use the iMac mouse with it. More significantly, peripherals like USB scanners, printers, ISDN terminal adaptors and dozens of other devices are now accessible to PowerBook users.

FireWire – Apple's new ultra-fast connectivity link - was widely rumoured to be included with this machine on the motherboard, but this is not the case. Apple has decided to offer FireWire as a PC card addition. Working with Newer Technology, Apple will offer this feature as a built-toorder addition.

One of the things that has enabled the new slimline look is losing one of the two PC card slots. This should pose no problem to most people as the kind of functionality usually offered by PC cards is now included on the motherboard. All these features are now at the back of the PowerBook; the modem was previously at the side. Newer Technology has been working on a version of the BookEndz desktop-dock for the new model.

Now that all the technology is out of the way, I feel I should mention the feel of the new machine. The new PowerBook G3 retains all the slinky design features of the old PowerBook, and adds a bunch of new ones. One thing that was mentioned a lot when the first redesigned PowerBook G3 came out was whether the Apple logo lit up. Sadly, it didn't - but this time it does. Because of the thinner screen the back-lit LCD illuminates the translucent white logo. It serves no useful purpose, but, boy, is it cool. Another minor change is to the keyboard, which now has translucent keys in a kind of copper-brown colour. The official Apple colour name is Java, although I think that name may already be a trademark for some other company...

## Macworld's buying advice

The whole PowerBook G3 package is highly desirable, and looks just as attractive as the skinny Vaio range from Sony. While it may not go as far as to beat the Vaio on looks, it certainly beats it on brains. (And most importantly, Mac brains.) Even the most conservative estimates put the G3 at around double the Vaio's speed, so it looks like Apple has another winner on its hands.

OS update free but not easy



## Mac 0S 8.6

Manufacturer: Apple Computer (0870 600 6010) www.apple.com/uk

Pros: Latest Mac OS; Sherlock plug-ins; PowerBook battery saver; sundry updates. Cons: See below

Price: 36MB download, or £14 p&p, not exactly "free". Star Rating: ★★★★/8.6 (natch)

couple of years ago in a period of system silliness, Apple released an OS update every few weeks. After the return of Steve Jobs, we got

Mac OS 8 and a wonderfully clear roadmap for future updates. And, right on cue, Mac OS 8.6 is here to keep the operating system up to date with Apple's latest hardware and add dash of new capabilities.

You won't notice a great difference between Mac OS 8.5 and 8.6 - most of the improvements are "under the hood." You do, however, get a beefed up Sherlock, sassy system stability, and advanced powermanagement technologies that lengthen battery life for G3 PowerBooks by about an hour.

The Sherlock search engine was the real hit of Mac OS 8.5, and the new, updated Sherlock comes with over 25 plug-ins that provide faster searches of popular – though mainly commercial - Web sites such as CNN Interactive, Amazon.com, Music Boulevard, and Rolling Stone. Under OS 8.6, Sherlock's "find by content" feature now includes the significant ability to search the content of PDF and HTML files stored on your hard drive.

Mac OS 8.6 is a must-have for PowerBook owners, as mentioned above. For true mobilers, 8.6 also supports a range of Nokia and Ericsson IRDA-capable mobile phones, allowing portable users to check email or access the Internet through their mobile phone, although this does require a compatible PowerBook, phone and ISP. (We didn't test this capability.)

OS hardware updates include improved USB and FireWire integration, and support for DVD-RAM discs.

You can't mention Apple without talking about games these days (see Product News,

🖓 B-Mac OS 8.6 Update... [

Status

Sherlock Find File / Find by Content / Search Internet @ Pirates of Silicon Valley Search Sites Amazon.com Books Amazon.com Music Apple Macintosh Products Guide Apple Tech Info Library Apple.com -🗷 🛅 Barnes and Noble Uncheck All Search

pages 36-37), and OS 8.6 features enhanced game support through the integration of Apple's Game Sprockets technology, the groundrock of most popular Macintosh entertainment titles.

Mac OS 8.6 includes Mac OS Runtime for Java (MRJ) 2.1.1, the latest version of Apple Java Virtual Machine. Apple claims this runs Java software up to five times faster and supports JDK 1.1.7. But since 8.6, Apple released MRJ 2.1.2, fixing some "outstanding issues" with the Mac OS 8.6 version. AppleScript 1.3.7 supports scriptable access to the Internet so Macintosh users can upload and download data within automated workflows. AppleScripts can be scheduled so that they can run when your Mac is unmanned. Desktop Printer Utility 1.2 includes support for PostScript USB printers and TCP/IP LPR protocols. LaserWriter 8.6.5 supports "secure printing" with AppleShare IP 6.1 and later. Down to the nitty-gritty, Open Transport 2.0.3 fixes DHCP problems, PAP client problems and other bugs.

Finally, ColorSync 2.6.1 features improved AppleScript integration, easy configuration of ColorSync profiles and CMM selections, and support for JPEG and GIF files.

## Free at a price

Transferred

Download Manager

28 Hours, 7 Minutes

Mac OS 8.6 is a free update for users of Mac OS 8.5/8.5.1, and is a "free download" from http://asu.info.apple.com/swupdates.nsf/ artnum/n11421. (Download the Mac OS 8.6 Update, English-British.)

13 KB of 48.0 MB, 498 bytes/sec

Trouble is, the damn thing weighs in at a hefty 36MB! The term "free" starts to look

### Detective work

The upgraded Sherlock search engine features faster searches of sites such as Amazon.com.

a bit wonky when you have to pay for lengthy downloads. *Macworld* is attempting to obtain a licence to carry the giant update on our cover-mounted CD-ROM, but Apple US is blocking the move in favour of Internet downloads.

This is apparently because of the success of its recent QuickTime 4 Star Wars trailer, which was downloaded by over 10 million Sci-Fi nuts. Because the film fans mostly downloaded 25MB files, Apple believes that OS updaters will also be willing to sit through several hours of download time as well.

For those not willing to suffer the lengthy download, Apple has created a Mac OS 8.6 Update on CD-ROM programme. No proof of purchase is required, but there is a shipping and handling fee of £14.

However you get Mac OS 8.6, please remember that all OS upgrades can spell trouble. Back-up first, and keep your 8.5 system CD to hand in case of emergency.

## Macworld's buying advice

If you've got Mac OS 8.5, the 8.6 update is a must. It seems pretty stable, and is a nifty round-up of the latest drivers, etc. PowerBook owners should rush on board.

If your Mac runs a system previous to 8.5, you're caught in a dilemma as there will be no boxed 8.6 available - so you'd have to buy the £59 Mac OS 8.5 and fork out another £14 for the 8.6 update CD (or suffer the 36MB download).

Really, you'd be better off waiting for Sonata (the code-name for what will effectively be Mac OS 8.7 or 9.0; see page 20). Apple hasn't done itself any favours with its distribution method, and Mac OS 8.6 might well be a minority upgrade in the UK as a result - which is a shame.

**Simon Jary** 

continues page 52

Waste of a day

A lengthy download time means this free upgrade could take you over your BT credit limit.

## Digitally captured



## **FujiFilm MX-2700**

Manufacturer: FujiFilm (0171 586 5900) Pros: High resolution, great looks, small and relatively cheap.

Cons: Still not cheap enough. Price: £599 inc VAT Star Rating: ★★★★/8.9

## **Nikon CoolPix 950**

Manufacturer: Nikon (0800 230 220) Pros: High resolution, good lens options,

and focusing

Cons: Clumsy batteries, bulky compared to the MX-2700.

Price: £799 inc Vat Star Rating: ★★★★/8.4

igital cameras suffered from poor quality in the early days, but recent improvements have meant they can compete better with their analogue counterparts. Both Nikon and FujiFilm have upped the ante with new cameras boasting resolutions of over two megapixels.

The Nikon model is an update to the familiar CoolPix series, the CoolPix 950. Apart from the increased resolution there are a number of other enhancements. It is really the resolution that takes the greatest leap ahead. The maximum is now 1,600-x-1,200 pixels. Not as high as the FujiFilm MX-2700 which boasts 1,800-x-1,200 pixels, but both are good enough for large printed images. The results can easily be printed at up to A4 size with similar quality to film cameras. This fact in itself could sound a death knell for film cameras, or at least the beginning of the end. Until now the convenience of the digital camera usually meant that you had to give up a little quality. Now you can achieve the same kind



End of the movina image The CoolPix best shot feature helps avoid blur.



At four inches heigh and weighing just 8 ounces the MX-2700 fits just about anywhere.

of quality as a film camera, with all the convenience of digital. The only difference is you must forgo the kind of add-ons like filters and lenses associated with quality SLR cameras. These cameras may not yet replace the SLR-quality camera, but they are definitely competing with the high-end

point and click cameras. Lenses are a big issue with professional photographers, and on that count the Nikon has the edge. There are a number of different lenses available for the CoolPix.

Focusing on both cameras was good for the most part. The Nikon did tend to judder a little as it constantly searched for the right focus. This is not necessarily bad, it is just a feature of the sensitive auto-focus. But I do wonder about how much stress this puts on the battery life.

Batteries are the cross you have to bear with the other conveniences of digital cameras. Fuji has the edge in this department, using a proprietary battery that can be charged without taking it out of the camera. This is infinitely more convenient than the Nikon method of supplying four rechargeable AA batteries and a bulky third

> party charger. It may have the advantage of being able to charge more batteries while the camera is in use, but it is still a hassle. Having a pocket full of AAs can be a nightmare - trying to figure out which ones are dead and which ones are charged, or half-charged.

The Nikon has an unusual feature that I haven't seen in any other camera. Nikon calls it the Best Shot Selector, which automatically takes five shots in quick succession. It then studies the five shots and chooses the best one. It is claimed that this helps avoid blurring caused by

camera movement. We certainly didn't come across any blurring in this mode.

What ought to be the least important thing about the camera is how it looks. In real life, however, this is quite important to the fashion-conscious pro-sumer. If you are going to spend £600 on a camera it should at least look the part. Both cameras take a different tack on what they consider to be good-looks. The Nikon is a fairly sombre black plastic

affair; sturdy perhaps, but fairly dull. It has the same twist-in-the-middle design as previous incarnations of the CoolPix, but this doesn't really enhance usability.

The FuiiFilm MX-2700 is a different matter entirely, with it's brushed aluminium body. It is more compact than the Nikon and simply looks expensive, a good thing when you have paid £600 pounds for it. It is a small camera by any measure, standing just four inches high and weighing in at 8 ounces. This makes it just right for a shirt pocket, something the Nikon is too big for.

The increased resolution on these cameras means that the file size is substantially larger than before. This means that downloading the pictures to your Mac will take much longer if you use the serial

There is a way to combat this, but it helps if you have a USB equipped Mac. What you need is a card reader, for reading the memory card used in the camera.

These cards come in two flavours: the SmartMedia Card for the FujiFilm, and CompactFlash for the Nikon. There are card readers available for both formats, but only as USB. If you don't have USB and can't justify buying a whole new machine for this purpose, help is at hand with the KeySpan USB PCI card. This means you can equip your older Mac with USB. I would recommend getting a card reader for either camera because spending 30 minutes or more defeats the instant qualities of these cameras.

## Macworld's buying advice

Both cameras give good-enough results for A4 prints. The Nikon has some advanced features that the FujiFilm model lacks, but the MX-2700 is smaller lighter and better looking. It also boasts a higher resolution, good battery management and is £200 cheaper than the Nikon.

Whichever camera you choose, a card reader is essential for everyday use.

## **David Fanning**

## Fantastic new strategy game



## Starcraft

Manufacturer: Blizzard Entertainment

### www.blizzard.com

Distributor: Softline (0181 401 1234)

**Pros:** Fabulous gameplay; immersive plot; strong artificial intelligence; nice 3D-rendered cut-scenes. **Cons:** Not enough hours in the working day!

Price: £34

Star Rating: ★★★★★/9.2

irst there was Warcraft, followed by
Warcraft II. Then there was Diablo.
Now, Blizzard Entertainment has
pushed back the boundaries of strategy
gaming with Starcraft. The ultimate in
space combat, Starcraft features 30 levels of
totally immersive gameplay as you take the
perspective of three intergalactic species –
Terrans, Zerg, and Protoss – each of which
has unique weapons and characteristics.
There are 10 campaigns for each species.

Levels start with a briefing leading to an objective, from setting up outposts to killing anything that moves. The difficulty level gets high quickly – the objective for mission 3 in the Terran campaign is just to stay alive for 30 minutes! First time out, I got to within 19 seconds...

In many respects, Starcraft is a cross between a sim and a strategy game. Finishing a level inevitably requires the building of various structures - as a Terran, the basics include supply depots and barracks . The barracks are then used to 'train' (create) marines and firebats. standard-issue fodder for killing the Zerg enemy. Of course, the minerals and gas soon run out - over-commit your forces and the replacements run dry, ending the mission. The computer's artificial intelligence is awesome and there are times

you feel the game is cheating you. Having completed the previous level with a one strategy, it's natural to start with the same routine again - only to find that the enemy has a new set of attacks and defences! To make life more difficult, a high-ranking official often has to be kept alive. Do you consign him to the front line and take the risk of failure, or nurse him back at base?

A short review can only scratch the surface of this superb game. Intelligently, Blizzard has included a campaign editor in the package (no waiting for a third-party utility) which will lead to countless new scenarios. Also, multiplayer gaming is catered for via an AppleTalk network, direct



I don't wanna die

Over-run by the Zerq, all I had to do was survive for 30 minutes

link, a pair of modems or Battle.net, a TCP/IP connection to the Internet.

## Macworld's buying advice

If you are going to buy one strategy game, it's a straight choice between Myth II and Starcraft. Hard, but I'd opt for Starcraft.

### Vic Lennard



## Win

... One of five copies of Starcraft with Macworld Jackpot. Ring 0900 1010 240 before 14 July.

## Industry-standard barcoder



## MacBARCODA 3.14

**Manufacturer:** Computalabel International (0116 255 7898)

## www.zoo.co.uk/~computalabel

**Pros:** Simple to use; creates colour bars and backgrounds; good manual/online help; free quality testing.

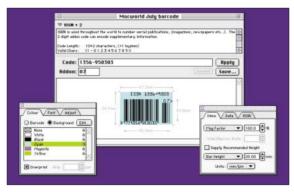
Price: £495; upgrade £145; Lite £295.

Star Rating: ★★★★/8.4

Cons: Expensive.

a series of vertical lines that are deciphered by an electronic reader for input to a computerized till. Creation of one of these used to be the domain of a specialist, costing anything up to £25 a time for a graphic on a piece of film that was then placed in position by the printer. Tenp years ago, Computalabel International placed barcode control in the hands of Mac operators courtesy of MacBARCODA. What we have here is the third generation of a tried and tested product.

Creating a bar code couldn't be simpler.



## In colour

The latest incarnation of MacBARCODA

First, select the requisite standard from the nine barcode families on offer, including ISSN for magazines and newspapers, ISBN for books, and EAN13 and Code 128 for general items. Then enter the number: MacBARCODA 3 creates the barcode and can be set to check any checksum digit. Finally, save it as an EPS, or export in one of four Adobe Illustrator formats (88, 3, 5/6 or 7) for editing.

All previous facilities are still on offer, including bar width adjustment – compensating for the printing press's dot gain – and device compensation – which adjusts for the imagesetter's resolution. A calibration pattern EPS is included and Computalabel International

provides quality testing freeof-charge based on film and printed material, giving advice on your settings.

In terms of new facilities, three are of particular importance. The user interface has been revamped showing actual sizes of the barcode and surrounding space in real-time, and giving access to the various facilities via on-screen menus.

More importantly, this latest version uses colour for bars and the background, advising against the use of anything but straight process colours but allowing custom variants plus overprint/knockout. MacBARCODA 3 also sports online help, a full Apple Guide manual and a decent printed one as well.

## Macworld's buying advice

This really is a case of an industry standard being completely revised yet still holding to its original purpose: the creation of highly accurate barcodes. It's not cheap at £495 (two barcode families can be purchased for £295) but the result of using a shareware offering, and ending with a barcode that does not function correctly, is hardly worth thinking about.

Vic Lennard

## 3D rendering in real time



## **Amorphium 1.0**

Distributor: MCM (0181 400 9493)

**Pros:** Easy to use; great fun; novel approach. Cons: Sculpting tools lack ultimate finesse: interface quirks

Price: £149

Star Rating: ★★★★/8.0

rue, fluid organic forms are the holy grail of 3D modelling. They're also the hardest to achieve. A variety of methods – such as MetaNURBs, spline patching and NURBs cages - produce the results, but at the cost of some frustration and mental gymnastics.

Amorphium, from the same stable as the high-end Electric Image Animation Studio, aims to change all that. The program is basically a live 3D sculpting studio, with a continuously rendered view of the object updating in real time. On opening the application, you're presented with a MetaCreations-like workspace window, which takes over the entire screen - there doesn't appear to be any way to run it in a separate window.

Around the edges are arrayed the tools, and in the centre sits the Workspace window. This measures 512-x-512 pixels, and can't be resized, which is a pain, By default you're presented with a blue sphere, and you can get sculpting. Amorphium is based on the idea of painting surface features onto an object, rather like displacement mapping in other 3D programs, but in real time. As you drag a brush across an object, it either dents inward or bulges outward, depending on



whether brush pressure is negative or positive. Finer detail can be added by reducing the brush radius - but only up to a point: at 0% radius the 'dent' produced was still around 30 pixels wide. This is because a standard mesh resolution is used for all default objects. To increase the mesh density you need to use the MeshMan option, which will subdivide your object, but at the expense of response time.

A myriad of different brush shapes is provided, and these can be applied in one of five modes. Brush mode paints straight through the object. Smudge allows you to pull out an object like toffee. And the Spheric and Normal brushes allow your strokes to stay confined to the object's surface. There's a very handy Symmetry function, which repeats the strokes on one side of an object onto the other side, saving time and increasing fidelity. Also present is a slew of procedural deformers such as Smooth, Waves, Tsunami, Twirl and Spikes. Finally, you can use greyscale maps to distort the surface in Amorphium's HeightShop module.

Standard shapes – such as cylinders cubes and tetrahedra - are also provided, which can be used as the starting point for your creations. However, Amorphium lets you work on – and see – only one object at a time. Another method for generating

basic shapes is BioSpheres. These are basically Amorphium's implementation of Metaballs. Each can be given a radius, 'Energy' (ie strength) and oblateness (flatness) which, combine to make mesh objects. Since the energy can be positive or negative, you can use one BioSphere to scoop out regions from another. You can't sculpt BioSpheres directly until you press the generate button that turns them into objects that can be acted upon by Amorphium's other tools.

Surfacing is handled by the Paint and Optics module, which allows you to paint directly onto the surface of your creation. This is great fun, and eliminates the hassle of positioning textures on objects' surfaces. Of course any of the sculpting brushes can equally well be used as painting brushes. A neat trick is that, using the MeshMan function, you can paint directly onto the surface to alter the mesh density: white to increase, black to decrease. Masking allows you protect areas not only from any applied paint effects (and procedural shaders), but also from the sculpting brush.

Composer (see screenshot above) is where animation and rendering is carried out. In contrast to the rest of the program, it's a wireframe environment, which is a little odd. Animation is done by setting keyframes, although you have only eight in total. Rendering and shading quality can be superb, given the right setup, and is blisteringly fast – would you expect anything less from the makers of ElectricImage? - although there's no transparency, no refraction and only one light. Amorphium's morphs can also be animated, although it won't morph between the textures of the two targets.

## Macworld's buying advice

Amorphium is an interesting product. There are a few interface quirks (it won't respond to a shutdown command, for example) and the inability to resize the Workspace window is crazy. While it's sculpting tools can't produce top-class work, it is inexpensive and allows 3D rookies to produce work quickly and effectively. Could we see a supercharged version built into ElectricImage as a competitor to Alias/Wavefront's Maya Artisan?

**Tim Danaher** 

## Font-management tool



## Suitcase 8 Manufacturer: Extensis

Distributor: CIJ 0181 358 5857 Pros: More stable features and Mac OS 8.6 compatible

Cons: Not many new features. **Price:** £79; Upgrade £29.95. Demo version on this month's CD. Star Rating: ★★★★/8.3

f you need Suitcase, the chances are that you already use it. If you are involved in any kind of desktop publishing, particularly in the production side of it, you probably can't live without it. So now that Mac OS 8.6 is here, the previous version is no longer compatible. Fortunately, Extensis has taken over Suitcase from Symantec – and the leap to version 8 is in honour of its OS 8.6 compatibility. It has had a radical facelift but much of the changes are less obvious.

Suitcase remained practically unchanged for many years, and Extensis has big plans for it. This version, however, concentrated

Suitcase 8 | Remove... | Remove... | Close | Close | Close

on the two vital rocks of stability and compatibility. Stability seems to be 100 per cent, as I haven't had a single crash – attributable to Suitcase – since its installation. It also proved itself compatible, surviving a fraught upgrade to Mac OS 8.6 without griping.

It is not all under the hood – there are more tangible benefits. The new interface is more intuitive than before. Suitcase is also a lot more pro-active, helping you before you even realize that you need help. For example, part of the installation includes a QuarkXTension that pre-empts your need for fonts as you open a document. Rather than the tiring "These fonts were missing" message, Suitcase rushes in looks for the missing fonts in closed suitcases, and automatically loads them. If this was the only thing it did, it

would certainly justify the price for me - always falling foul of missing fonts. When you close that document, Suitcase 8 politely closes them for you.

The way fonts appear in menus has also been improved – beyond WYSIWYG. Now fonts held are neatly in families in hierarchic menus. This feature is available with other products, but it is nice to have a new stable version. Adding new fonts is much more straightforward than before. Older versions required you to first load the font into Suitcase and then load it again to get it into the document. Now a single click (or drag) should take care of everything.

## Macworld's buying advice

This is the first attempt to get Suitcase up to speed, and Extensis has done a good job. I look forward to seeing how else they can improve Suitcase. If you have an opinion, now would be a good time to let Extensis know. Until then, you'd be well advised to upgrade to Suitcase 8 to assure a simple, safe upgrade to Mac OS 8.6.

## **David Fanning**



## Win

.. One of ten copies of Suitcase with Macworld Jackpot. Rina 0900 1010 242 before 14 July.

## Basic and pro audio/video streaming



## **RealPlayer G2**

www.real.com

Pros: Excellent quality sound; easy to use. Cons: Net congestion is frustrating as it cuts out parts of tracks or video clips. Price: Basic Player is free on this month's CD. Plus version, \$299.99 as an Internet download.

Star Rating: ★★★★/7.5

■ he ability to listen to music, live concerts and sampled soundbites, or to watch TV stations around the world, has become one of the fastest growing arenas on the Internet. Audio tools like RealPlayer G2 from Real Networks allow you to listen-in live through your Mac to sites streaming sound or video files from their servers.

RealNetworks' RealSystem - of which RealPlayer G2 for the Mac is a part – is a popular and fully fledged Web-broadcasting platform. Enhancements in this new version of RealSystem G2 include added support for MPEG; Advanced Streaming Format; AVI;



JPEG; .WAV and VIV. RealText streams live text, and RealPix streams still images with TV effects such as fades and wipes. Smart Stream makes auto bandwidth adjustments.

## **Audio dynamite**

RealPlayer G2 for Mac is small, easy to install and use. It is well presented with the added bonus of a dedicated Web site. You connect to the Real Guide Web site where links to of all the sites that offer RealAudio content can be found. Listing them by categories such as news, society, show business, and sport, there are over 75 channels to choose from. There is a lot less UK-specific content to log into than the wide range offered by sites in the US, but UK sites include ITN's live 6 O'Clock Newson-demand clips, Virgin Radio and Capital FM radio stations.

## Macworld's buying advice

The interface itself was slightly irritating to use with Windows-style bars. The connection was generally solid and the sound quality excellent. According to RealSystems, the frequency response is increased by 80 per cent for those still on only 28.8Kbps modems. When downloading slowed to a crawl or tripped up, as it can tend to do at busier times of the day on the Internet, it didn't cause too much interruption. The downloading quickly caught up with the play-back. The buffering worked very efficiently most of the time.

To allow you to tweak the sound quality, RealPlayer also has a Graphic Equalizer option. You can specify bass boost and presence lift, and also alter video quality controls. You can spend hours channel surfing in RealPlayer to your hearts content – and not just to avoid the various adverts that inevitably appear before the content.

## **Gillian Robertson**



## Win

... One of five copies of RealPlayer G2 with Macworld Jackpot. Ring 0900 1010 243 before 14 July.

continues page 58

## Finding your way

Amorphium's interface is extremely Bryce-ian, but easy to navigate. These flower petals were produced by using the six-fold symmetry tool.

ose New Open Save Delete

Macworld MAY 1999 Macworld JULY 1999

## The sexiest speakers around



## **Monsoon MM-1000**

**Manufacturer:** Boston Ltd (01923 699 399) **Pros:** Fabulous looks and sound, though not colour co-ordinated

**Cons:** A bit pricey unless you have a decent, professional reason to buy them.

Price: £169 ex. VAT
Star Rating: \*\*\*/7.9

ince the first Mac, sound has been an accepted part of computing the Apple way. As Macs grew up, the audio capabilities have grown with them. But even the new, blue G3 Power Macs have only basic speakers. So if you have a state-of-the-art, design-award-winning computer with a matching flat-panel LCD display, how do you get the sound out in a way that won't detract from the image.

The answer is the pinnacle of speaker chic: the Monsoon MM-1000 speaker system.

You can now watch DVD movies on your Mac, but without decent speakers why bother? The MM-1000 system uses three speakers, a stereo pair of slim-line speakers that are bolstered at the low end by a meaty sub-woofer. The resulting audio experience is a treat. It may not compare to

a set of good-quality hi-fi separates - but next to your average mini-midi-all-in-one music system, it rocks.

The slim speakers use a technology different from the usual cone-piston type of speaker. Instead, they use a complex vibration of a single flat panel. Speakers using this technology are very sharp at the mid- to high-range, but the bass is not so good. This is why a subwoofer is used, creating a great rumbling bass.

The sub has two inputs, allowing both your computer and perhaps a personal stereo to be connected. There is a volume control actually on the sub-woofer box, but because the box is best used sitting on the floor, there is a small remote lead provided. This enables you to turn the speakers on and of and adjust the volume.

These speakers are designed for computer use, particularly gaming. While £200 is not a lot in computer terms, buying these speakers for playing games is a lot of pocket money. In other words, way above the threshold of a single-spouse decision.

## Macworld's buying advice

So are these speakers a justifiable purchase? It depends who you have to justify the purchase with.

If you want your boss to buy these



Stunning

The MM-1000 uses three speakers to produce rocking sound

speakers, you'll need to be working with sound for multimedia or presentations. For this job they are outstanding, and bound to impress. If you need to justify this to your partner, you may need to be a little more creative. Perhaps you could mention the discreet speaker size and fantastic sound quality, which would turn your Mac into a stereo CD player. If you are your own boss, and you don't need to justify the purchase to anybody, you are in luck. You can just go out and buy the sexiest speakers around.

**David Fanning** 

## Audio package moves on



## **Peak 2.03**

nufacturer: BIAS

www.bias-inc.com

Distributor: SCV (0171 923 1892) Pros: Now has all the features for professional audio editing Cons: Frequent crashes. Price: £297

Star Rating: ★★★★/7.3

editors for the Mac.

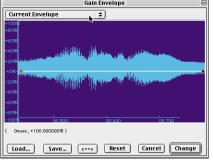
t has been a long time coming, but the wait is over. BIAS has finally released version 2.03 of its advanced audioediting application Peak. This is a stereo waveform editor that you can use with stereo or mono audio recordings – rather than a multi-track recording and editing application such as Pro Tools or Deck II. You may be familiar with Macromedia's SoundEdit 16, which fulfils a similar role to Peak. Or you may have used Digidesign's

Sound Designer II or Passport's Alchemy

- the first professional stereo waveform

Alchemy is no longer available and Digidesign ceased development of Sound Designer II some years ago, although it is just about available. SoundEdit 16 started out as a hobbyist-level 8-bit package many years ago and still betrays its roots – although it is a more professional 16-bit audio package, these days. Peak, on the other hand, first appeared just a few years back and is actively undergoing development intended to make it the application of choice for professionals involved in any aspect of digital audio production.

Existing users will notice that the user-interface has been extended and improved and there is a customizable toolbar that you can place anywhere onscreen. Poking a little deeper, you will discover that support for 24- and even 32-bit files has been added, along with many new DSP features. With the new QuickTime window, Peak now makes an ideal tool for editing QuickTime soundtracks. SMPTE sync capabilities have also been added, along with Ensoniq PARIS file format support, an improved batch processor, and enhanced sampler support. Peak works with most popular samplers from EMU, Kurzweil, Ensoniq, Akai and others – letting you transfer audio between Peak and the sampler.



# Gain Envelope:Fade Out - Slow Fade Out - Slow \$\displaystylength{\frac{1}{2}}\$ \$\displaystylength{\frac{1

### The Gain Envelope window

Before (above left) modification, showing the waveform with no gain change. The gain envelope shows as the white line placed at the zero position. After (above right) modification, showing one of the preset envelopes, Slow Fadeout. Points above the zero amplify while points below the zero attenuate the audio.

Notable exceptions are the latest Akai S5000/6000 models. Peak also lets you record audio to hard disk using the Mac's in-built audio hardware or via most third-party cards.

And it now works with Digidesign's DAE, so professionals can use high-end ProTools hardware. Peak handles all the audio file formats you will need and let's you save files using all the popular sample rates and bit-depths for CD and multimedia. Peak is also an ideal tool for preparing audio files for streaming over the Internet as it includes RealNetworks RealAudio 5.0, 3.0 and 2.0 encoders – and you can also encode Shockwave and MPEG-3 audio files.

You can process your audio using Adobe Premiere plug-ins or dedicated plug-ins from Waves, Arboretum, DUY and others – and Version 2.03 will support Digidesign AudioSuite plug-ins.

Peak's DSP menu also includes many useful functions. For example, you can change pitch with or without changing duration, change duration without changing pitch, roll together two selections of audio to apply the sonic character of one sound to another, automatically repair clicks, and apply a gain envelope by drawing a curve onto the waveform to control level changes.

Peak maintains a list of the edits you make, and these changes are not permanently applied until you save the

file – giving Peak an unlimited Undo and Redo capability. You can either undo and redo your actions sequentially, or you can use the Edits command to go to any particular edit 'event' in a list and undo this – making new edits from that point on.

There are many occasions when you will want to put markers into your audio file to assist with editing, and Peak has the best set of tools for marking positions within an audio file that I have seen. Another typical task is to create loops. Again Peak has the best set of tools for setting loop points that I have come across. The Loop Surfer automatically helps you create a loop that lasts for a rhythmically correct length of time while the Loop Tuner lets you visually line up the start and end points of your loop – listening to your adjustments as you make them. Similarly indispensable is the Guess the Tempo command. As long as the music has an obvious beat with corresponding peaks in the audio waveform, you can simply select a portion of the audio and invoke this command to get an instant tempo readout.

Once editing is done, you can use Peak's Playlist feature to string together a list of audio files or Regions in a specific order. You can burn Disk-At-Once audio CDs from Playlists using Adaptec Toast –

now bundled with Peak

or you can create a Jam
 Image file to create Track-At Once audio CDs using Adaptec's
 Jam, sold separately. Most
 CD burners are supported.

## Macworld's buying advice

If you need to prepare audio for CD, for CD-ROM or for playback via the Internet, then you need Peak.

Similarly, if you want access to much more powerful looping, editing and processing tools than you will find in any sound sampler, you will value Peak highly. Currently available alternatives are no competition for Peak, although something 'hot' is said to be in the pipeline from TCWorks.

Mike Collins

## Touchscreen iMac



## iKiosk

**Manufacturer:** Touchscreen Systems (01235 533 999)

## www.touchscreen.co.uk

**Pros:** Prettier than other kiosks. **Cons:** It is too pricey to warrant buying one for home use only.

Price: £1,395 (inc. iMac) ex. VAT Star Rating: \*\*\*\*/8.8

any museums and galleries use touch-screen displays to add an interactive element to an exhibit. Most often they use PCs running Director movies, though the PC is usually hidden inside the kiosk itself. As an antidote to these grey displays TSL (Touchscreen Systems Limited) has produced a touchscreen version of the iMac

which cries out not to be hidden away.
 The touchscreen consists of a 2mm-thick

sheet in between the normal screen and the front of the iMac. If you look behind the door that has the USB connections, you will see that one of the two sockets is taken up by the screen connection.

This means that connecting any extra peripherals beyond the keyboard and mouse requires a USB hub.

Not that the normal use of the kiosk would require any extra peripherals – in fact it is more likely to be used without a keyboard or mouse.

Although the name suggests that the iKiosk is suitable only for interactive presentations, there may be other uses too. Children, especially, like the touch screen, as it is easier than 'mousing'. In fact, the touch screen was popular with everyone in the *Macworld* offices.

One thing I really expected to find was a problem with finger prints. You would think that hoards of grubby children or *Macworld* employees for that matter would make a mess of the screen. In fact the screen was remarkably resilient to all the greasy paws that touched it. After a hard days work in a museum, a quick once over with a cloth would bring the screen back to its original cheep.

Using the screen is not reliant on anything other than driver software.



can move around the screen and double-click, or at least double-tap just like when using a mouse.

## Macworld's buying advice

The price for all this added functionality is £1,325 (obviously, including the iMac). This is £546 more than your plain old iMac; around the same as you might pay for a PC kiosk set-up. However, you would also need to pay for a box to hide the ugly PC, while the iKiosk stands proud. It will also serve as a public endorsement of Apple when displayed, which is always a good thing. **Arthur Bagnall** 

Twin Peaks
Two open waveform edit windows with the Toolbar at the top, the Info Strip at the
bottom and the floating Cursor Palette at the front.

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## Handy Studio Pro plug-in



## Strata ProCreator

Manufacturer: Strata

### www.strata.com

**Distributor:** Principal (01756 704 444) **Pros:** Adds a range of procedural textures to StudioPro; simple to use; excellent effects. **Cons:** Lacks atmospheric effects..

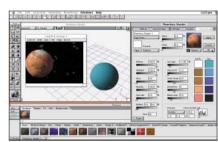
Price: £95

Star Rating: ★★★★/8.7

here can be few more complicated tasks in the realm of human endeavour than 3D modelling and animation (Open heart surgery ranks near the top of the list, but a heart's a heart – 3D modellers have to re-create the entire universe, including some bits that have never been seen by the human eye).

While it's certainly possible to produce stunning images within a very small set of tools, most 3D artists and animators need (or desire) the most comprehensive tool set available. Yet one area that is often overlooked in the lust for state-of-the-art features like metaballs, NURBS, inverse kinematics and particles is basic texturing.

Texturing – the art of dressing up models to closely emulate the appearance of real-world counterparts – falls into two



### World domination

Creating planets like this Mars-like world couldn't be simpler. One sphere, a starry backdrop and ProCreator produced this image in less than five minutes from start to finish.

categories. You can cannibalize the real world by taking photographs and wrapping them around your models, or you can employ the power of the computer to generate procedural textures. The former often consume less memory and, for obvious reasons, can be more lifelike, but procedural textures make life simpler since there are fewer files to manage.

ProCreator is a new plug-in for Strata's modelling and animation package Studio Pro and it adds a number of procedural texturing tricks to the modeller's arsenal.

While all modelling packages ship with an array of procedural textures (woods, marbles, metals, plastics, etc) it can often prove difficult to achieve the effect you want. For example, to create a single wooden plank is simple; creating a room's worth of wooden floorboards quickly racks up the number of objects, adding to memory requirements and

rendering time. ProCreator provides a texturing tool specifically for creating wooden planking, making that bare wooden floor a snap: one plane, one texture.

There's a similar tool for creating tiles of other material, from flagstones to polished floor tiles. A separate procedure does a wonderful job of simulating concrete from just-poured to old and rust-stained.

ProCreator offers the means to create entire planets with a few clicks of the mouse. You can specify different ground colours, and a variety of shades for sea levels – making it simple to generate a universe full of planets with an infinite range of mountains, valleys, and so on. One omission from the planetary shader is the ability to create atmospheric effects like cloud cover, but it remains a great time-saver for sci-fi enthusiasts.

There are less familiar effects available, too. Spline reflection lets you create iridescent colour reflections. And the colour spectrum shader generates rainbow-hued effects like stained glass. A Shader simulates silk – difficult using traditional procedural textures.

## Macworld's buying advice

There's probably nothing here the dedicated modeller can't live without, but it certainly makes life a lot simpler. ProCreator suffers the drawback of all plug-in collections: there are probably one or two elements you really want, and a couple you don't. But modelling professionals using Studio Pro will find ProCreator a worthwhile addition to their toolbox. **Peter Worlock** 

## Upgraded automation utility



## **QuicKeys 4.0**

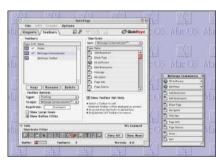
Manufacturer: CE Software

www.cesoft.co

**Distributor:** Computers Unlimited (0181 358 5857) **Pros:** Can automate almost any series of Mac actions; much-improved user interface; Mac OS 8.5-compatible; includes a range of useful plug-ins. **Cons:** No longer functions with System 7. **Price:** £79.99 ex VAT; upgrade from v3.5, £29.99. **Star Rating:** \* \* \* \* \* \* \* \* 9.1

welve years ago, CE Software launched QuicKeys – and quickly established itself as the industry-leading automation program that took the drudgery out of common tasks by recording a set of keystrokes and replaying them at the touch of a key. It went through numerous changes in terms of interface and facilities, ending up now with version 4.0.

One change is the leaving behind of



## Father to son

The QuicKeys Editor allows you to access and edit all shortcuts, while a dedicated toolbar appears automatically whenever you launch an application.

System 7: QuicKeys 4.0 works only with Mac OS 8 or later. Part of the reason for this is the integration with Contextual Menus and the Appearance Manager, making this version up-to-date in looks and functionality.

QuicKeys has always had an air of difficulty about it. In order to combat this, it now sports Setup Assistants, a set of screens giving a blow-by-blow account of how to create a particular shortcut. In a similar vein, the QuicKeys Editor is much easier to use, with a far more modern frontend, new keysets and toolbars tabs, and type-to support for finding a shortcut very quickly. Also, now you can launch another

program or move to a different window. In short, it now behaves like a modern application, including minimizing itself if you click outside. And the new toolbar is great – you can drag-&-drop almost anything on to it and have a shortcut created automatically. With ten new plugins, there's something for everyone ranging from File Handler – which performs repeated operations on files – and Project Saver, where a single keystroke recalls the exact set-up of a worksession, to a number of Internet-specific functions.

## Macworld's buying advice

QuicKeys 4.0 has moved from its roots a little. It now offers a number of useful utilities on top of its key function. In this respect, it has most certainly enhanced its status from damn-useful to musthave. And there's a 30-day trial on our cover CD. **Vic Lennard** 



## Win

... One of five copies of QuicKeys with Macworld Jackpot. Ring 0900 1010 244 before 14 July.

## WHICH ONE? Web-graphics round-up



## **ImageReady**

**Publisher:** Adobe (0181 606 4001)

**Pros:** Solid GIF colour control; Windows previews;

Cons: Should be part of Photoshop.

Price: £129.

**Demo:** On *Macworld*'s cover CD, December 1998.

Star Rating: ★★★★/7.5

## **ImageStyler**

**Publisher:** Adobe (0181 606 4001)

**Pros:** Free-form drawing; easy rollovers; **Cons:** No animation; can't edit pixel-based images.

Price: £85.

Demo: Go to www.adobe.co.uk.
Star Rating: \*\*\*\*/8.6

Juli Illumge A A A A A Colo

## Fireworks 2

Publisher: Macromedia

**Distributor:** CU (0181 358 5857)

**Pros:** Easy rollovers and other effects;

unlike others, it's a complete tool. **Cons:** Not as as ImageReady good on

guick tweening animation.

**Price:** £179.

**Demo:** On *Macworld's* cover CD, May 1999.

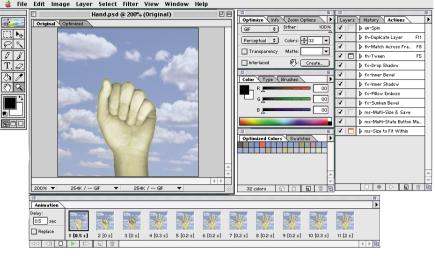
Star Rating: ★★★★/8.8

ecause I work at *Macworld*, I've got an embarrassment of software riches piled around my desk. We receive just about every piece of Mac software under the sun to evaluate, and working the Web beat means that I have all the players installed on my hard drive and can use them with impunity.

Now, I realize that not everybody gets the chance to use these tools. Things have changed a little bit in this regard – you can download a demo version of just about every major Web tool, which is a great way to get your feet wet.

But a lot of people don't take advantage of those demo programs, or are hesitant to download all of them – at several megabytes a pop – and put them through their paces. (Of course, as *Macworld* readers, you will have got most of them easily from our feature-packed covermounted CDs.)

In the first of a series of comparative round-ups, we've collected together all the main contenders to see what each one is best used for, whom it's appropriate for, and whether you should download the demo or buy the software. Since prices have changed since the original release (and review), we've had another look at them here – and given each an appropriate new rating. Go the the individual reviews in previous issues for more details.





Anyone who's been working on the Web for

a while has used shareware graphics tools

But for people who design professionally for

probably best to leave the shareware behind

and buy a commercially-developed software

I don't want to sound like a shill for big

software companies, but the fact is that

even when I was using those shareware

programs, I was using Adobe Photoshop.

I can't envision designing Web sites without

using commercial software. Sure, you can

do it – but in my opinion, it ain't worth it.

That said, let me also argue against

tool. If you already own Photoshop -

especially version 5 - you can do some

great tricks and create lots of attractive

Web graphics. You may not think you need

another tool. I have to disagree. Photoshop

is woefully short on Web-relevant features -

probably because Adobe's packed all of that

If you own Photoshop and can't envision

stuff into ImageReady, a separate product

buying another Web application, let me

and JPEG Photoshop plug-ins. I still swear

by PhotoGIF and ProJPEG from BoxTop

Software (www.boxtopsoft.com). With these

or similar plug-ins, you can get control

over your final GIF and JPEG files that

was what processed almost every Web

Photoshop's built-in capabilities just can't

deliver. In fact, the Photoshop-BoxTop team

suggest that you at least consider GIF

I'll discuss in a jiffy.

using Photoshop as your only Web-graphics

the Web with any real frequency at all, it's

such as Gifbuilder and GraphicConverter.

**Shareware solution** 

package.

## Ready or not

Essentially, ImageReady (above and left) is a post-Photoshop tool for Web people, rather than a full-fledged image editor.

graphic I did up until about a year ago. But since Macromedia released

Fireworks and Adobe released ImageReady, I've never looked back.

## Ready or not

The existence of Adobe's ImageReady (see Reviews, September 1998) presents an interesting problem. Adobe is the leader when it comes to image-editing software. Everyone who's anyone uses Photoshop. So what is Adobe to do? They can point their Photoshop programmers at the Web and let 'er rip, but what would their printpublishing and TV people do when the latest version of Photoshop comes out and offers only Web stuff for the upgrade price? They wouldn't buy it, that's what. And Adobe would feel the pain.

Adobe could've taken another stab at the Web, offering a different version of Photoshop – maybe with all the really printoriented stuff taken out, and Web stuff added in – to its users who work on Web graphics. That would sell to the Web users, and the print people could stay on the other track. And Adobe could also offer a hybrid version – for more money – that provided both sets of features.

What Adobe decided to do was to stop adding Web features to Photoshop altogether and build a side product, ImageReady, that was designed just for the Web. In effect, they crippled ImageReady so that anyone who's serious about image editing will have to buy both it *and* Photoshop. Want to use the airbrush tool? Forget it – it's not in ImageReady. How about the excellent, all-purpose, saviour-of-artists'-butts Rubber Stamp? Nope. Pony up for Photoshop. Word on the street is that the next version of Photoshop, due this

continues page 62

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summer, will include ImageReady functionality – keep your fingers crossed, and check next month's *Macworld* for more details.

Is ImageReady a bad tool? Not at all. It looks and acts – to a certain extent, as I said - like Photoshop. If you're comfortable in Photoshop, you'll be comfortable in ImageReady. ImageReady gives you solid control over the colours of your GIFs, lets you preview what your images will look like on Windows PCs with ease, and offers animation features that make it quite easy to create GIFs featuring moving text and fade-ins.

If ImageReady were the only Web graphics tool out there, I'd advise you to pay Adobe's toll and get both ImageReady and Photoshop. But I think there's a better option.

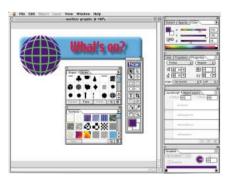
## Ready, Aim, Fireworks

Version 1.0 of Macromedia's Fireworks was just slightly better than ImageReady. Each had their strong points. Want to do GIF rollovers? Fireworks. Quick animations? ImageReady. Glowing text? Fireworks. Need ultimate control over your GIF colour palette? ImageReady.

But while, as of this writing, ImageReady sits on version 1.0, Macromedia has released Fireworks 2 (see Reviews, May 1999), an update that tips the scales even more in Fireworks' favour. This new version still can't match ImageReady when it comes to quick animation using "tweening," but that's about it.

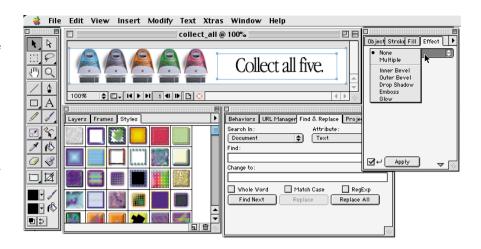
Macromedia has loaded Fireworks with great tools. The rubber stamp and airbrush are both here, for example. And since Fireworks is related to FreeHand, you can apply effects either in vector mode—meaning you can actually edit your brush strokes, drag them around, change their colour, whatever, any time you want – or in Photoshop-style pixel-by-pixel mode.

It's pretty easy to create rollover effects – you know, those images on Web pages that change when you put your mouse over them – in Fireworks, and the program will



## Stylish companion

Even if you are a graphics whiz, ImageStyler is worth a look. If working in Illustrator or FreeHand is your thing, you should be especially intrigued, since all of the shapes ImageStyler uses are EPS files – meaning it's easy to create a logo or shape in one of those programs and then drag-&-drop it into ImageStyler for bevelling, texturing, shadows, whatever.



even generate the accompanying rollover JavaScript in an HTML file for your use. You can apply any or all of a number of special effects – glows, bevels, drop shadows – to any object as you see fit, making it really easy to create a glowing text item on a bevelled button, for example.

Fireworks is a complete tool. If you don't have Photoshop and can only buy one Web graphics tool, this is the one. Even if you do have Photoshop, this is probably *still* the one – by dint of how easy it is to create rollover effects, if nothing else.

## **Doing it with Styler**

But before you think I'm being unduly hard on Adobe, let me applaud that company for releasing a product that deserves much more appreciation than it's received. That product is Adobe ImageStyler (see Reviews, January 1999).

You may have missed this program, because it's geared toward the PageMill crowd, and therefore hasn't been advertised or covered as it should have been. For people who aren't HTML and Photoshop whizzes, it's a revelation. There's no pixel editing involved at all - it's all about shapes and text. ImageStyler comes with a library of shapes and you can draw your own using various shape tools and even a free-form drawing tool. Creating a rollover effect is a matter of a few mouse clicks. And it's easy to create glowing text, drop shadows, button bevels, and any number of other effects, either via the program's cornucopia of controls or via drag-&-drop from the dozens of preformatted styles in the Styles palette.

On the minus side, ImageStyler doesn't do animation and it can't edit pixel-based images (though you can place them and resize them, you can't edit the actual pixels). But if you're using Photoshop for image editing and don't need those animation features, ImageStyler will serve you just fine.

## Macworld's buying advice

If Adobe put Photoshop, ImageStyler, and ImageReady in the same application, I'd be in hog heaven. (And, as I said earlier, something like this may happen in a few

## Fireworks display

Now that xRes is out of the picture, Macromedia doesn't have an image editor among its stable of moneymaking products. That's where Fireworks comes in – like other Macromedia programs, it's aimed directly at the burgeoning Web market.

months.) But here's the scorecard of what I use now on a day-to-day basis, given that I have all these tools.

I use Photoshop a lot. I would be very sad if I didn't have it. But I only use it for image editing these days – not really for making GIFs and JPEGs.

I almost never use ImageReady anymore. And now that Fireworks 2 offers more control over GIF colour palettes, I wonder if I'll ever use this version of ImageReady again.

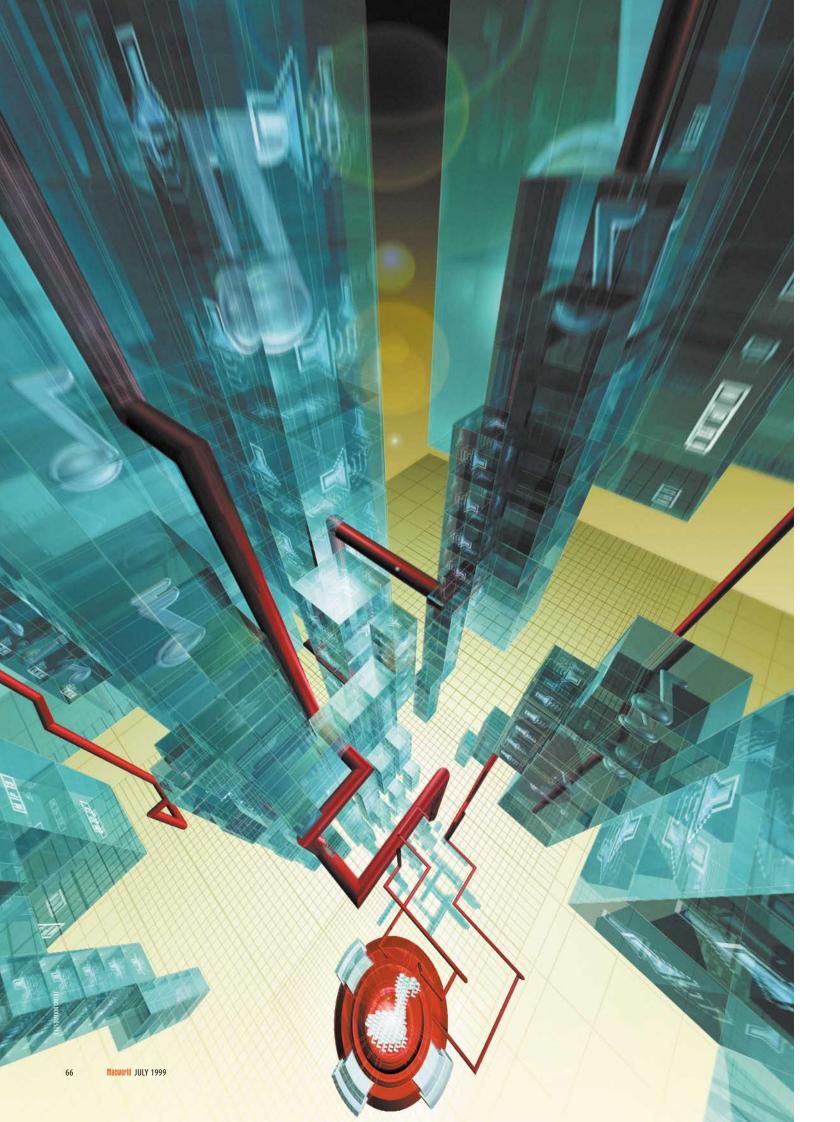
I use Fireworks quite a bit, for optimizing Web graphics, creating logos and the like. If I was limited to one Web graphics tool, I'd probably pick this one.

But the Web graphics tool I use the most, and get the most enjoyment out of, has been ImageStyler. Fireworks 2 mimics many of its features, and so in the future I may use it less, but I still prefer Adobe's palette-driven interface to the dialogue boxes I get when applying glows, bevels, drop shadows and the like to objects in Fireworks.

And since I've been spending a lot of time taking EPS logos from Illustrator and FreeHand and making them presentable for the Web, I've come to appreciate ImageStyler that much more.

Which tool is right for you? That's for you to decide. Like I said, demo versions of all these applications should be available from their respective companies' Web sites. Check out the ones that sound interesting to you. If you're looking for a general Web graphics tool, though, I heartily recommend that you check out the Fireworks demo – in my mind, it's your best bet.

Macworld contributing editor Jason Snell is the founder of InterText (www.intertext.com) and the editor of TeeVee (www.teevee.org).



# Take note

MP3 is fast becoming the new CD of music compression. By Jim Heid

## EVERYONE'S TALKING ABOUT MP3. NOT SINCE LARRY, CURLY,

and Moe have three characters caused such a fuss. Depending on whom you ask, it's a format for compressing and storing sound, a way to download free music from the Internet, a promotional vehicle for musicians, a piracy threat to the recording industry, or a preview of how everyone will buy and sell music in the future.

In fact, MP3 is probably all these things. But most important, MP3 is the hot spot in the Internet music scene. Thousands of MP3 files in every musical style, many offering near CD-quality audio, are available for downloading (some even legally). What do you need to join the band? Just a free player and an Internet connection – the faster, the better, because MP3 files routinely weigh in at 5MB or more.

It's easy to make your own MP3s. Run your favourite audio CDs through MP3 encoding software, and you can create nearly identical copies that use a fraction of the disk space. Stash a few hours' worth of MP3s on a PowerBook hard drive, and you've got a great alternative to the in-flight movie. Buy a CD burner and software such as Adaptec's Toast, and you can burn a CD-ROM that contains roughly ten hours of music, instead of the 74 minutes an audio CD can manage. And you wonder why recording-industry executives have trouble sleeping.

Now the bad news: some of the most interesting destinations in the MP3 world have "Windows Only" signs on their doors. But the Mac is steadily gaining ground, and these days it's possible for the rest of us to participate in almost every aspect of the MP3 revolution. For links to relevant Web sites and our exclusive sound-quality comparisons, visit www.macworld.com/1999/07/features/

## **Making music smaller**

MP3 isn't new. Its origins go back to the eighties, when researchers began exploring ways to compress digital audio into less storage space. One of the standards that came from these efforts was MPEG (Moving Picture Experts Group) Audio Layer III – MP3 for short.

Uncompressed CD-quality stereo sound requires roughly 10MB of disk space per minute. MP3 can lower audio's appetite for storage by a factor of ten or more, and even audiophiles may have trouble hearing the difference. Like many audio compression schemes, MP3 relies heavily on perceptual coding techniques, which eliminate those portions of an audio signal our ears don't hear well anyway. It's similar to how the JPEG format works, compressing images by throwing away image data our eyes don't detect easily.

**Variable quality** Just because a file's name ends with MP3 doesn't mean you're getting CD-quality sound. As with all audio (and video) compression schemes, the quality of an MP3 file depends on how it's been compressed. MP3 measures compression settings in terms of a file's bit rate – the average number of bits required for one second of sound. To obtain near CD-quality audio, MP3 requires a bit rate in the range of 128 to 192 kilobits per second.

Most high-quality MP3s on the Internet are encoded at 128 Kbps. As you can hear in our online examples, this yields near CD-quality sound. A 64Kbps rate yields sound roughly equivalent to an inexpensive FM radio. At lower bit rates, you start to hear that swirly, shortwave-quality audio most commonly associated with RealNetworks' RealAudio and other streaming technologies.

**Forget streaming** It's obvious that a 128-Kbps sound file can't download over a 28.8-Kbps modem and play at the same time. In this regard, MP3 doesn't compete with streaming-media systems such as RealAudio and RealVideo. You can listen to a RealAudio feed within seconds of clicking on a link, but if you're downloading a high-quality MP3 file via a modem, you may wait ages before hearing a note. This is why some MP3 music sites provide RealAudio clips that let you preview tunes before committing to long downloads.

MP3 does allow a crude form of real-time streaming – but with quality compromises similar to RealAudio's. In other words, if you compress an MP3 file for very low bit rates, it has that shortwave-radio fidelity common to streaming audio.

This illustrates a key point: Although MP3's compression skills are impressive, MP3 itself isn't the holy grail of audio compression schemes. The reason MP3 files sound so much better than, say, live



### Speaking encode

Xing Technology's AudioCatalyst is the fastest, most feature-packed MP3 encoder for the Mac. We retrieved all of the track names listed here from the Internet's massive Compact Disc Database.

RealAudio feeds is largely because MP3 audio isn't compressed to the same degree. But as anyone who's followed Microsoft Windows knows, a technology doesn't have to be the best in order to become the most popular. What does make MP3 magic are the free or nearly free tools for playing and making MP3 files – and the staggering number of MP3 files available for easy downloading.

**Steal this song** So is MP3 legal? The answer depends on where you get your MP3 files. If you've downloaded a free MP3 file from an official Web site or a clearing-house like MP3.com (www.mp3.com), bought MP3 files from MP3-for-sale sites like GoodNoise (www.goodnoise.com), or created your own MP3 files from your personal collection of audio CDs, you're in good shape as long as you keep those files to yourself. It's even legal to convert MP3s with a utility such as Rafael Lubbert's free MPecker Drop Decoder and burn them onto standard audio CDs, so long as they're for your personal use. But if you're downloading albums by commercial recording artists in MP3 format, chances are pretty good that you're engaging in music piracy.

## **Auditioning MP3 players**

We tested five Mac MP3 players: @soft's MacAmp 1.0 – a shareware product still in beta testing at press time); Norman Franke's free SoundApp 2.6; Oliver Dreer's free beta version of MPEG Audio Player 1.7; the free beta of MacPlay3 1.4 from Germany's Fraunhofer Institute, where MP3 originated; and Audioactive's free Audioactive 1.2a, a relabelled version of MacPlay3. All five are currently free for downloading, so you can try them and find out which one you like best. Also, check out this month's cover CD for the latest versions as we went to press.

continues page 71

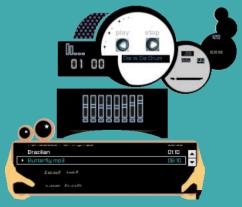
## **Digital DJs**

@soft's MacAmp is the premier MP3 player for the Mac. By applying downloadable "skins" you can transform the

program's look-&-feel. Or use the more basic interface MPEG Audio Player offers.



MacAmp's default skin



MacAmp's highly stylized skin



The relatively staid-looking MPEG Audio Player

## Helpful hints for working with MP3s

## Make 'em sing

You can't launch an MP3 player by double-clicking on a freshly downloaded MP3 file, because the MP3 file lacks the internal type and creator codes that tell the Mac which program to launch.

To open a downloaded MP3 file, drag it to your MP3 player's icon. With most players, you can also drag-&-drop an MP3 file into the playlist window.

With a disk utility such as Daniel Azuma's \$10 FileTyper (www.macdownload.com), you can add the appropriate type and creator codes to downloaded MP3s. To have the Mac launch MacAmp when you double-click on an MP3, change the MP3's type to MPEG and its creator to mAmp (note the capitalization).

## **Ripping Smart**

When encoding stereo tracks for high-quality playback, start with a data rate of 128 Kbps and the Joint Stereo mode. (Joint Stereo is an encoding scheme that improves the quality of low and mid-range frequencies.) For encoding monophonic tracks, you can use a 64-Kbps bit rate. Lower data rates are also ideal if disk space is tight or if you're encoding voice-only material.

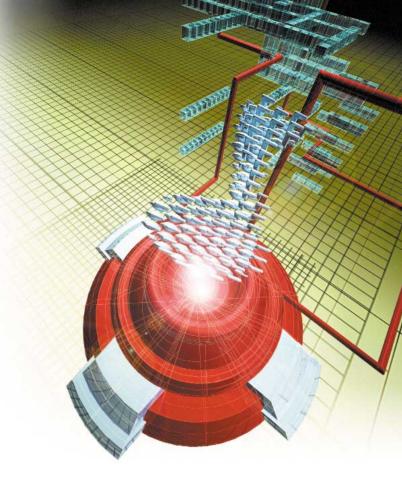
## Burn your own

To commit your MP3s to a CD (for your own use), you need a CD-ROM burner and software. The premier burning software for the Mac is Adaptec's Toast (£70; Adaptec, 01276 854 500). If you burn an ISO 9660–format CD, PCs and Macs alike can read it. If you want to burn an audio CD, you need to convert your MP3s into AIFF format. You can do so with the free SoundApp utility on our cover CD.

**Snazzy features** All of the players we tested provide play-list features that enable you to specify the playback order of a virtually unlimited number of songs (see the sidebar "Digital DJs"). And all except MacPlay3 and Audioactive enable you to save and switch between play-lists, change the playback order by dragging song files up and down within the window, randomize playback order, and repeat tracks.

**Interface champs** Then there's the look-and-feel. MacAmp is the hands-down coolest MP3player for the Mac, sporting a style that wouldn't seem out of place in a bachelor pad's stereo cabinet. Better still, you can customize MacAmp by downloading skins – small documents that transform the program's appearance. You'll find dozens of skins at @soft's Web site, which thoughtfully includes

MP3 in a Flash When it comes to MP3 encoding tools, you get what you pay for. The free MPecker Encoder does the job, but it's not nearly as fast at generating MP3 files from your audio CDs as the \$30 AudioCatalyst. Best result in red. Times in seconds. Time to encode AudioCatalyst 1.01 MPecker Encoder 1.0 (beta) **Behind our tests** We timed converting a 4-minute audio CD file to a joint stereo, 128-Kbps MP3 file. Our test platform was a first-generation Power Macintosh G3/300 running Mac OS 8.5.1 with 64MB of RAM and a 2MB disk cache. - Macworld Lab testing supervised by Ulyssis Bravo



previews that let you see what each one looks like. MacAmp also supports plug-ins that add unique display features; the version we tested included a plug-in that creates a hypnotic graph of a file's frequency spectrum.

MacAmp is also the only player with a graphic equalizer, with sliders enabling you to boost or attenuate certain frequencies. And PK Industries' \$5 shareware StripAmp 1.0 (www.macdownload.com) gives you easy control over MacAmp from within the Control Strip.

MacAmp also has a junior sibling: the \$5 shareware MacAmp Lite 1.5.1 on our cover CD provides a simple, Control Strip-like interface and can play numerous audio formats in addition to MP3 files.

Finally, Oliver Dreer's MPEG Audio Player has a unique feature for varying a song's playback speed in real time. Besides letting you make the Beastie Boys sound like Alvin and the Chipmunks, this feature could be useful for musicians who want to play along with a tune or slow down a song to decipher a complex solo.

## Ripping your own: MP3 encoders

To make your own MP3 files, you'll need an encoder application. Some MP3 buffs also call these rippers, and refer to encoding a track from an audio CD as ripping.

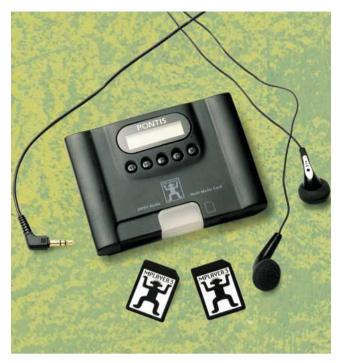
We tested two encoders: Rafael Lubbert's free MPecker Encoder 1.0 – still in beta at press time) and Xing Technology's \$30 AudioCatalyst 1.01. (www.techno.co.kr/xing/index). Both work well, but if you're serious about MP3, spring for AudioCatalyst.

Each program makes encoding audio CD tracks easy (see the screen shot "Speaking encode"). You can encode one track at a time, or rip an entire CD in one fell swoop.

MPecker also supports Layer II encoding, while AudioCatalyst supports a variable-bit-rate encoding scheme that can yield better sound quality but may cause playback glitches with some players (see "Helpful hints for working with MP3").

**Disc master** The MP3 specification supports a tagging scheme for storing song, artist, and album information along with the encoded file. When an MP3 file contains these tags, this information appears in the MP3 player as the file plays.

Both MPecker and AudioCatalyst can add these tags, but AudioCatalyst goes the extra mile. It can connect directly to the Compact Disc Database (CDDB) at www.cddb.com, an Internet-based continues page 73



Pontis the way

Pontis Electronics' MPlayer3 is a forthcoming Mac-compatible MP3 player.

service that contains information on tens of thousands of CDs. Load a series of tracks into AudioCatalyst, choose the Fetch Track Information command, and the program connects to CDDB and adds the information for each track.

On the downside, AudioCatalyst can't read track information you may have entered already using Apple's AppleCD Audio Player utility or normalize track volumes, although Xing Technology says those features will be a part of its forthcoming AudioCatalyst 2.0.

When we put the two utilities through their paces, AudioCatalyst came out more than twice as fast as MPecker in compressing a 4-minute Audio CD track (see the benchmark, "MP3 in a Flash"). Indeed, AudioCatalyst is fast enough to permit real-time encoding. Connect an audio source such as a tape deck or turntable to your Mac, and you can make MP3s from your favourite cassettes or vinyl albums. (Note that a turntable's output isn't strong enough to drive the Mac's audio-input circuitry; you'll need to connect a preamplifier between the turntable and the Mac.)

It's also worth noting that BIAS's £297 Peak 2.0 and £64 Peak LE 2.0 (SCV, 0171 923 1892) audio-editors can also encode MP3s. There's no reason to buy either program if you simply want to encode audio CD tracks, but they would be useful if you want to edit audio before encoding it.

### Fade out

So what aspects of the MP3 craze can't Macs participate in? For starters, there's MP3 player hardware such as Diamond Multimedia's £149 Rio (www.rioport.com). This tiny gadget (3.5-x-2.5-x-0.625 inches; 2.4 ounces) connects to the parallel port on a Windows computer and holds about an hour's worth of MP3 music. It's impressive enough to have attracted the attention of lawyers from the Recording Industry Association of America (RIAA) – last autumn, the RIAA unsuccessfully sued to stop shipment of the Rio.

Diamond Multimedia says it's looking very hard at the Mac market, and it wouldn't come as a shock to see a USB version of Rio someday. In the meantime, if you're in a multi-platform office or school, you can use a Mac for downloading and encoding, and then turn to a Windows machine to load MP3s into a Rio.

Meanwhile, Germany-based Pontis Electronics is putting the finishing touches on its MPlayer3 (www.mplayer3.com), a Rio-like device that will work with Windows and Macs alike. The \$159 MPlayer3 should be available by the time you read this. Numerous other companies are working on similar devices, including ones that fit in a car's dashboard (see www.mp3.com/hardware/).

**Streaming servers** Windows also has the edge in MP3 streaming. Nullsoft, the maker of WinAmp, the Windows world's most popular MP3 player, has developed an MP3 streaming system called Shoutcast (www.shoutcast.com). The Windows- or Unix-based Shoutcast server, which you need for streaming your MP3s to the world, is free for non-commercial purposes; commercial users pay \$299. A related, Windows-only program called MP3Spy (from the company of the same name at www.mp3spy.com) lets you locate Shoutcast stations and chat in real time with other listeners.

Shoutcast is fun, but RealNetworks' RealAudio streams more reliably, has good Mac support, and is far more popular for live streaming. By the time you read this, RealNetworks' free RealPlayer will also support MP3 streaming.

## The last word

MP3 is a grassroots groundswell – its popularity comes from millions of enthusiasts embracing an open standard. But Big Business has taken notice. Several companies (including Microsoft) are now promoting MP3 enhancements or alternatives they say provide better quality, piracy protection, the ability to purchase songs you download, or all three. We've stashed some links to relevant Web sites at www.macworld.com/1999/07/features/.

MP3's ubiquity has made it a must-have for high-quality compressed digital audio. On the Mac, the tools of choice are @soft's MacAmp for playback and Xing's AudioCatalyst for encoding. But because most MP3 tools are free, you should try the other programs reviewed here, too. Use them honestly – to play legally distributed MP3s and to make MP3s of your own CD tracks – and you'll discover new artists and get more out of your own music library.

Contributing Editor Jim Heid specializes in Web and digital-media technologies.

| MP3 players and encoders slug it out   |                 |       |   |   |  |  |  |  |  |
|--|-----------------|-------|---|---|--|--|--|--|--|
| PRODUCT  | RATING          | PRICE | COMMENTS  | CONTACT   |  |  |  |  |  |
| MP3 PLAYERS  |                 |       |   |   |  |  |  |  |  |
| MacAmp 1.0   | NA *            | NA ** | The Mac's best MP3 player is fully featured, customizable, and cool.                                | www.macamp.com  |  |  |  |  |  |
| MacAmp Lite 1.5.1  | ***/7.7         | \$5   | Has solid playback and play-list features with a simple interface.                                  | www.macamp.com  |  |  |  |  |  |
| Audioactive Player 1.2a  | <b>★★★/6.7</b>  | free  | Has bare-bones play-list features; other players are better choices.                                | www.audioactive.com/player/                           |  |  |  |  |  |
| MPEG Audio Player 1.7b3  | NA *            | free  | Has clean interface; the only player that can vary playback speed.                                  | www3.pair.com/odreer/mpeg.html                        |  |  |  |  |  |
| SoundApp 2.6   | ****/7.5        | free  | Can play and convert numerous non-MP3 formats.  | $www-csstudents.stanford.edu/{\sim} franke/SoundApp/$ |  |  |  |  |  |
| MacPlay3 1.4b2   | NA *            | free  | Has bare-bones play-list features; other players are better choices.                                | www.iis.fhg.de/amm/download/                          |  |  |  |  |  |
| MP3 ENCODERS   |                 |       |   |   |  |  |  |  |  |
| MPecker Encoder 1.0b14   | NA *            | free  | Has wide range of quality settings, including Level II support, but much slower than AudioCatalyst. | www.anime.net/~go/mpeckers.html                       |  |  |  |  |  |
| AudioCatalyst 1.01   | <b>★★★★/8.4</b> | \$30  | Is a bargain, elegant, and fast enough to support real-time encoding.                               | www.xingtech.com                                      |  |  |  |  |  |
| NA = not applicable. *Final version wasn't shipping at press time **Shareware price of the final version had not yet been announced. |                 |       |   |   |  |  |  |  |  |



## Storage beaters

USB has complicated the world of removable storage. By David Fanning

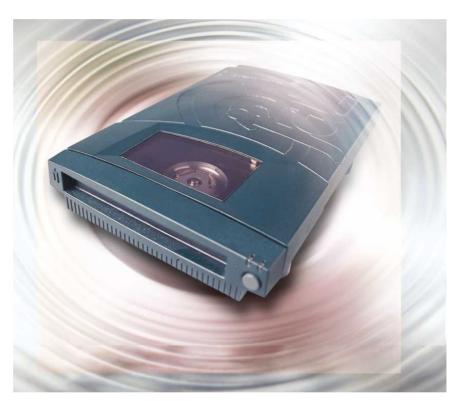
ou may think that the world of removable storage is less crowded after the demise of SyQuest. The former removable-drive giant gave up the ghost earlier this year. However, the advent of USB and FireWire in the latest Macs - and the disappearance of SCSI as a standard interface - means that choosing a suitable drive is as complex as ever.

Here, we'll help you get to grips with standards new and old, and help you decide which is most suitable for you.

There was no cost limit for the drives we tested, because there's an obvious limit to what people will pay for the convenience of removable drives. The only requirements were that the drives be mountable on the desktop - which precluded tape drives and that they should be cartridge-based. The cartridge requirement meant there was no room for CD-RW drives - which can be classified as removable drives. CD-based drives will, though, be covered in next month's Macworld.

The drives we tested fall into two categories: USB and SCSI. SCSI has always been the first choice for Macintosh users for high-speed data transfer. This hasn't changed, even though SCSI is no longer a standard feature. The iMac poses a particular problem: it has no SCSI or any other high-speed peripheral connection making the only option USB. Though this is far slower than faster flavours of SCSI, it is still useable - especially when you have no other option.

You can soon expect to see the first FireWire storage peripherals hit the streets. The first ones will be fixed hard-drives, but these should soon be followed by just about every type of removable storage option. How quickly this happens will depend on how popular the first fixed drives prove to be. There was about a one-year lag between the iMac's release and a wide availability of USB peripherals. It's probably safe to assume that there will be a similar lag for FireWire peripherals. The FireWire interface has only been a standard feature on Power



Macs since the beginning of this year, so by this reckoning, a similar flood of FireWire peripherals will appear early next year.

Removable drives play a part in many people's computing lives. Whether for simple backup or files-exchange, some kind of removable media is essential for most people. Mac's axing of the floppy in iMacs and Power Mac G3s was a shock to many people, but I can't be alone in thinking it wasn't soon enough.

A measly 1.4MB of information was barely enough to carry a couple of shareware games and maybe a font. Macworld actually had cover-mounted floppies up until three years ago.

The changing formats of removable media is nothing new - it has always changed rapidly and, often, inconveniently.

The first floppies were 5.25-inch disks

continues page 77

## Editors' Choice

## Jaz 2GB

Macworld Rating ★★★★/8.8

For large-format compatibility, the Jaz 2GB — using 1GB disks is unbeatable, and it's also the fastest removable around. As an extra bonus, You'll soon be able to use it with new USB Macs.



followed by 3.5-inch disks. The smaller disks first held only 400K, but this increased to 800K, meaning users with 400K models had to upgrade to an 800K drive – and upgrade yet again with the advent of the 1.4MB drive.

Drives that use SCSI have an added complication that did not exist before the new Power Mac G3 arrived. In the past, SCSI was something that even entry-level Macs boasted. Having SCSI on the motherboard was seen as a problem by some peripheral vendors. SCSI comes in many flavours, but Apple opted for an old and slow flavour for its motherboards. This meant people were reluctant to pay extra for higher performance. Just because SCSI is merely an option for many Macintosh users, it's wrong to assume that SCSI is dead. Apple's move to cease supplying it on its logic boards was merely designed to keep up with the quickly moving SCSI standard. Now, you can choose the card most suited to the kind of connection you need to make.

Whether USB or SCSI, removable drives need disks. Disk prices vary, but as a rule the larger the disk capacity, the cheaper it is per MB. For example, the DVD-RAM drive has a capacity of 5.2GB, making the price per MB tiny, especially when compared to smaller media, such as Zip disks. To counter the small cost of media, large-capacity drives usually cost more.

One of the most important requirements of a removable drive is that it is cross-platform compatible. The ability to exchange files with friends and clients is often more important than anything else. To ensure you're going to be compatible – and stay compatible – you should find out what other people use.

If, for example, your main use for removable storage is transferring files to a repro house, you should be able to use most types of drive. If it's worth its salt, your



repro house should have the main formats – but check with them to make sure. Some companies may not possess the latest equipment, such as the DVD-RAM drive.

From a repro point of view, a DVD-RAM drive is a helpful thing to have around. Not only does it have the ability to read and write DVD-RAM disks, but also just about every other CD-based media.

If you use this kind of storage, you should consider one of the optical options. Optical drives of all types provide a much more stable way of keeping data long-term. Jaz, Zip and other magnetic media are fine continues page 79

## Editors' Choice

## La Cie DVD

Macworld Rating ★★★★/8.8

The greatest strength of DVD-RAM is cheap storage for large files — at only £25 for a 5.2GB disk. This works out at just half a penny per megabyte. If you have lots of data that you need to store — with compatibility coming second on the list of priorities — then the DVD-RAM represents unbeatable value.

## **Clunk Clik every trip**

The only new format for removable drives is, unfortunately, unavailable for Macintosh. The lomega Clik drive was first announced at the San Francisco Macworld Expo in January 1998. More than one year passed before the drive was seen by the public, and now it's about to be launched in the UK.

There's no official word on the Mac version of Clik, but lomega tend to follow PC releases with Mac releases, although the Mac market is getting better at setting standards. For example, the USB revolution – and now FireWire – have been kicked off by the Mac market. Iomega really should have spent more time developing Clik for us.

So just what is it that we are missing. The Clik drive is a tiny drive with even smaller disks. The disks are about the size of an After Eight mint, and hold 40MB of data. You can use them with most digital cameras with the right attachment, allowing you to

transfer data directly from the cameras memory card. The price of the disks will be a fraction of the price of memory cards for

your Mac at home when taking digital pictures on the road. lomega wants to establish Clik as the standard for palm computing and sub-notebooks.

Eventually – when many people have one – the disks

digital cameras. This will allow you to leave

will be used like high tech
business cards. They are an attractive
proposition and I look forward to seeing
them widely used. If you agree, why not
contact lomega and let it know you want Clik for
your Macintosh.

The Mac market has been good to lomega, so we deserve this new technology too. You can send email suggesting this to iomegaeurope@iomega.com. The more email they get the quicker they will move to getting the Clik ready for Macintosh.



| Removable storage: the showdown |              |        |                  |          |                 |              |  |            |                |  |  |
|---------------------------------|--------------|--------|------------------|----------|-----------------|--------------|--|------------|----------------|--|--|
| MANUFACTURER                    | MODEL        | PRICE  | STAR RATING      | CAPACITY | CARTRIDGE PRICE | PENCE PER MB | COMMENTS   | CONTACT    | TELEPHONE      |  |  |
| Fujitsu                         | Dyna MO      | £350   | ★★★★/8.0         | 1.3GB    | £20             | 2p           | Same functionality as the La Cie 1.3, but £100 cheaper.  | Fujitsu    | 0181 606 4605  |  |  |
| Iomega                          | Jaz 2GB      | £299   | ★★★★/8.8         | 2GB      | £79             | 4p           | The most versatile and fastest drive.                    | lomega     | 0353 18075 133 |  |  |
| lomega                          | Zip 100      | £89    | <b>★★★★</b> /7.8 | 100MB    | £10             | 10p          | Handy for small stuff.                                   | lomega     | 0353 18075 133 |  |  |
| lomega                          | Zip 100 USB  | £99    | <b>★★★★</b> /7.8 | 100MB    | £10             | 10p          | Best option for an iMac.                                 | lomega     | 0353 18075 133 |  |  |
| Iomega                          | Zip 250      | £169   | <b>★★★★</b> /8.1 | 250MB    | £15             | 6р           | A bigger and better Zip.                                 | lomega     | 0353 18075 133 |  |  |
| La Cie                          | 1.3 Optical  | £449   | ★★★★/7.6         | 1.3GB    | £20             | 2p           | Great for archiving.                                     | La Cie     | 0171 872 8000  |  |  |
| La Cie                          | DVD-RAM      | £549   | <b>★★★</b> /8.8  | 5.2GB    | £25             | 0.5p         | Terrific for huge archives, and maybe sharing — one day. | La Cie     | 0171 872 8000  |  |  |
| Imation                         | SuperDisk    | £183   | ★★★/6.9          | 120MB    | £8.50           | 14p          | OK for archives, but not for file sharing.               | Imation    | 01344 402 200  |  |  |
| Sony                            | 5.2 Optical  | £1,437 | ★★★/6.4          | 5.2GB    | £99             | 2p           | Pricey but compatible with older 5.25 inch opticals.     | Sony       | 01932 816 660  |  |  |
| TEAK                            | Floppy Drive | £60    | ***/7.7          | 1.4MB    | £0.35           | 25p          | Small and compact, but it's still a floppy.              | Mac & More | 01442 870 300  |  |  |
| Newer                           | uDrive       | £84    | <b>★★★★</b> /7.4 | 1.4MB    | £0.35           | 25p          | Pretty – but bulky.                                      | AM Micro   | 01392 426 473  |  |  |
|                                 |              |        |                  |          |                 |              |  | IMC        | 01344 871 329  |  |  |

for everyday stuff, but they are not exactly bullet-proof. Magnetic media deteriorates, even if it is just left sitting on a shelf. It might take a few years, but eventually your data will become corrupted. If you have any floppies over five years old, try reading them – and see how many errors you get. If looked after properly, optical drives should keep their integrity for up to twenty years.

Usually, optical disks come in cartridgeform, but CD-RW and other CD-based storage is usually in disc form. The data on such disks may be fine for years if left undisturbed. However, the discs are easily scratched, so if you want to use CDs for long-term storage, look for either a CD drive that uses caddies – or treat them with great caution.

Using caddies may seem a bit primitive, but CDs have always been vulnerable to rough handling, especially CD-R disks. It makes sense to have a caddy for each archive CD that you use, meaning that only a caddy-style drive can read the discs safely. Plextor make a range of CD drives that use caddies.

Optical discs come in two main types, using 5.25-inch and 3.5-inch. Both formats have been around for a number of years, with the capacity steadily increasing. As the capacity swells, the older, lower-capacity disk will remain compatible in the newer drives. This has made optical drives popular. Their only drawback is speed. Even though their speed has increased over the years, they are still slower than most removable formats. But if you need a format for archiving your own data, optical is hard to beat.

The current maximum capacity of the 3.5-inch optical drive is 1.3MB, which is a useful size. Unfortunately, being a new format, it's not widely used – which is a shame, because it would compete well with Jaz. It's cheaper than Jaz, at around £15 per disk, but not as fast. Perhaps it's just as well, because the more competition, the more confusing things get.

There are a few manufacturers who produce 1.3GB Optical drives. Fujitsu has

its DynaMO drive and La Cie has its 1.3GB MO drive. There are others, but they are mostly the same under the hood. This is because, like hard-drive manufacturers, optical-drive manufacturers are few and far between. There's only around a dozen companies that make mechanisms for hard-drives or optical drives.

Build quality does vary, but both the La Cie and the Fujitsu seem solid and sturdy. Look out for generic boxes, or anything that rattles.

The 5.25-inch, 2.6GB drives have recently been superceded by the massive 5.2GB format. The drive we looked at was the Sony, which weighed in at £1,437 – the most expensive drive we tested by far. It's difficult to understand this price, when the La Cie DVD-RAM drive is a fraction of that. The only real difference to the user is that, with the Sony you are backwards-compatible with older 5.25 optical disks – but not with DVD-RAM.

DVD-RAM is capable of reading lots of other formats, but those tend to be pre-recorded, such as audio, DVD-video and CD-ROM. It's a good way of gaining compatibility with those formats, but before you rush off and buy one to watch DVD-videos, you probably wont be able to. Getting a DVD movie to your computer screen needs both a DVD reader and a hardware decoder.

The greatest strength of DVD-RAM is cheap storage for large files – at only £25 for a 5.2GB disk. This works out at just half a penny per megabyte. If you have lots of data that you need to store – with compatibility coming second on the list of priorities – then the DVD-RAM is unbeatable value. Unfortunately, the fact that La Cie is the only manufacturer using DVD-RAM appears to have slowed its universal acceptance.

The demise of SyQuest has left the continues page 80



## Caught in your Zip

The USB Zip is now available – but solutions for Zip 250 and Jaz are still not ready. If you own a Jaz and want to use it with a USB-only Mac, the answer should be here very soon: the Jaz Dongle.





### **Optical disillusion**

The Sony 5.2 Optical – which at £1,437 is by far the most expensive drive we tested – is far pricier than the La Cie DVD-RAM – but offers little more.

# Dyno might

The Dyno MO has everything that the La Cie 1.3 optical boasts – but is £100 cheaper.



magnetic-based drive market solely to Iomega, but it hasn't been resting on its laurels. Both the Zip and the Jaz drives have had their capacities increased since their first appearance. The Zip now comes in a 250MB version, and the Jaz is now available only in its 2GB guise.

One thing that Iomega has been slow to react to is the advent of USB. The USB Zip is now available, but solutions for Zip 250 and Jaz are still not ready. If you own a Jaz and want to use it with a USB-only Mac, the answer should be here very soon: the Jaz Dongle. This is a SCSI-to-USB adaptor for the Jaz drive, and should be available soon.

If you're the proud owner of a new Power Mac G3 your only option with Jaz, or any other SCSI-based drive, is using a SCSI card. Some of the high-end G3s do include a SCSI

card, but there are a number of things you should know about before you use it.

SCSI is undoubtedly the fastest way to communicate with your removable drive, but you can unwittingly slow it down. The Jaz 2GB drive uses Ultra SCSI, which is fast, only you must make sure that other devices on the chain don't interfere with its performance. Scanners, for example, often use a slow version of SCSI, which can cause the SCSI chain to run at the slower speed. When the computer starts up, it checks the speed with which it can talk to each device. If the first device is slow, then other devices further down the chain have to communicate through the slow machine. This leaves all the devices running at the slowest speed. To avoid this, make sure the fastest devices are closest to the computer and the slowest furthest away.

If your G3 arrived with no SCSI card, you will need to add one. For the optimum speed for Jaz 2GB you will need the Adaptec 2930 card, which retails at around £99. This provides an Ultra SCSI

connection. If you just want to use a scanner and a slower drive you can get away with the £49 Adaptec PowerDomain 2906. This is a Fast SCSI card, which is all you need for Zip and scanners.

# Choosing the right drive

There's a drive for most needs, but you need to assess your requirements in order to make the right decision. Here are some typical uses and suitable models.

The home user If you own an iMac, you need to use USB. At present, your choices are a floppy drive from Newer Technology or TEAK, the Imation Super Disk, or the ZIP USB. Unless you really need a floppy drive, try to wean yourself off. The Imation holds up to 120MB on its own disks and can use floppies too. The drawback is that the format

is not widely used, so don't count on sharing your information with anybody

The best solution for the iMac is the Zip USB drive. It's cheap, widely used and is a handy size. You'll be able to swap information with many Zip-equipped Mac and PC users. Alternatively, in the next month or two, USB CD-R machines and, hopefully, USB-equipped Jaz will also be available.

The SCSI-equipped pro If you've a Mac with SCSI, your choices are wider. You can go for any of the optical formats, CD-R, or the Iomega options. For backup – without a need for sharing information – the DVD-RAM drive is hard to beat. It has the highest capacity for the lowest price, and it's likely to be around for a long time. You should also consider CD-R and CD-RW, which will be covered next month.

For exchanging information the Jaz 2GB and the Zip and the Zip 250 are ideal. The Zip 250 offers backwards-compatibility with the original Zip, but the 250 cartridge hasn't gained enough support to be massively useful for data exchange. The same goes for the Jaz 2GB. Although it has replaced the 1GB Jaz, many people still use the 1GB version - which can't read 2GB disks. For large-format compatibility, the Jaz 2GB using 1GB disks is unbeatable, and it is also the fastest removable around. As an extra bonus, if you upgrade your Mac to one without SCSI you can remain compatible with the Jaz Dongle, when it becomes available.

**The USB pro** The choices are limited for the USB professional, but the ability to add a SCSI card makes it possible to use all formats of removable drive. The Zip USB drive is fine for small files, but for backup you'll need to add a SCSI card or wait for other USB options to arrive.

Adding a SCSI card may well help you with compatibility with scanners and other legacy peripherals. If you opt for the SCSI card route, your best bet is the PowerDomain 2630 from Adaptec. Then add the Jaz 2GB for fast and compatible storage. If you want storage for backup and archiving look at USB CD-R options or the DVD-RAM drive with the slower and cheaper PowerDomain 2906 SCSI card.

# Macworld buying advice

Whatever you choose as your removable medium, think of the future. The Zip drive seemed massive when it first came out, but now it is looking a little cramped for some uses. The Jaz 2GB and the DVD-RAM drive both supply enough for the next couple of years at least. The Jaz 2GB is the most versatile format – or at least it will be when the Jaz Dongle is available, after which it will be compatible with all Macs. The DVD-RAM drive is also an extremely useful format for storage. It hasn't taken off as well as I had expected, but it is unbeatable in the price per MB – and I suspect that that will be more popular in the future.



# Pass masters

High-end scanning choices often come down to software. By David Fanning

ast month we took a look at consumer scanners. Here, we move up a notch to the high-end flatbed scanners. The main difference between a consumer scanner and a pro scanner is the ability to scan transparencies. Of course, the quality of scan should be noticeably higher too, but that's not always the case. Software used in high-end scanning is considerably different to consumer-level software. Although pro software makes top-end scanners harder to use, it also gives greater control over the scanning process.

Prices for professional flatbed scanners have taken a tumble recently. Like consumer scanners, you will pay barely half the price being asked last year.

If you need scanners with greater bit-depth, resolution and batch-scanning capabilities you can find more expensive scanners than featured here. None of the scanners tested cost more than £3,000. Beyond this, you're looking at drumscanners for considerably more money. There are flatbed scanners, such as the Topaz, that offer true drum-scanner quality – but at drum-scanner prices. It's more than possible you won't need to spend as much as you'd planned on a scanner.

Traditionally, designers have used low-cost scanners for positional scans, when high-resolution images were produced by pre-press bureaus. Usually, the positional scans were done on sub-£500 scanners, but if you take a look at last month's scanner round-up, you'll see that you can achieve the same results on a sub-£100 scanner. If you need to scan transparencies you might have to spend £300 on the Heidelberg Jade II, but that's still far less than the models we have tested this month.

The models we did test can scan transparencies – and to a high-enough quality to give drum scanners a run for their money. When making a scanner purchase for the first time, it's important to know what it is you expect to achieve. If you're looking to cut the cost of repro-house work, you may very well be able to. You



may imagine that repro houses all use drum scanners, but many use flatbed scanners similar to those we have tested. What you're paying for isn't just the equipment a repro house uses, but for for their experience and expertise with colour. If you aren't getting that from your repro house, you may as well consider the DIY approach.

Much of the software used with these scanners is designed for colour pros, but a little time spent with a good manual and you can turn out great looking scans too. However, be ready to spend some time as a student of scanning, as none of the models tested are straightforward to use.

The direction of scanner technology isn't altogether clear at the moment, as the basic requirements for a good scan are available to most of the scanners tested. Technology has now reached a point at which increases in resolution are less important because levels are already adequate for the majority of users. In fact, super-high resolution can reduce print quality.

Colour sensitivity is still improving gradually, but technology in this area is levelling out. One area, though, that is ripe for improvement is software.

Demands on scanning software usually come second to those required of hardware continues page 84

# Editors' Choice

# **Umax Mirage II Pro**

Macworld Rating ★★★★/8.7

In a very competitive field, the £2,495 Mirage II Pro offers excellent scan quality and a powerful software bundle that includes MagicScan Driver, PhotoPerfect, and BinuScan.



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### **Pro scanners: how they compare** PRODUCT MANUFACTURER PRICE STAR RATING TRANSPARENCY ADAPTOR MAX COLOUR MAX OPTICAL RESOLUTION. DENSITY RANGE MAX SCAN AREA. MAX SCAN AREA. SCAN SIZE SOFTWARE COMMENTS CONTACT TELEPHONE DEPTH (BITS) TRANSPARENCIES (mm REFLECTIVE (mm) **\*\***\*\*/7.5 DuoScan T12000 Aqfa £549 Integrated 600-x-1.200 3.0D 310-x-437 310-x-437 Fotolook 3.0, Full Colortune, Omnipage LE 5.0, PhotoPaint 8. Good budget pro-scanner. Aafa 0181 231 4903 DuoScan £1,799 **\*\*\***/8.1 1,000-x-2,000 3.3D 203-x-254 203-x-254 Fotolook 3.0, Full Colortune Next step up from the T1200. 0181 231 4903 Integrated GT-1200 3.3D Α4 Epson £1.899 **★★★★**/7.5 £821 800-x-1.600 310\_v\_437 310-x-437 Epson Twain Pro, Presto! PageManager. 0800 220 546 Make sure you get the transparency adaptor. Epson GT-9600 Epson £529 \*\*\*\*/7.2 £305 800-x-3 200 3.3D 216-x-297 216-x-297 Enson Twain Pro Bargain, if on a budget. 0800 220 546 Epson Saphir Ultra 2 \*\*\*\*/8.4 3.4D 254-x-216 Heidelberg £1,649 Included 1,200-x-2,400 297-x-216 LinoColor Elite Top-notch A4 Scanner. Heidelberg CPS 01242 285 100 JADE 2 £279 £149 2 8D 297-x-216 Heidelhern **+++**/7 9 600-v1 200 01242 285 100 355-v-216 LinoColor Flite Heidelberg CPS Cheanest pro scanner Opal Ultra 2 £2,495 **★★★★**/8.7 Included 1.400-x-2.800 3.3D 431-x-289 A3 01242 285 100 Heidelberg 431-x-289 Joint Editors' Choice winner Heidelberg CPS ★★★/6.9 £1,599 £299 600-x-1,200 3.2D 279-x-381 0181 380 6600 ScanMaker 9600XI Microtek 305-x-432 Caere OmniPage Lite, Microtek ScanWizard, Painter 5, Colorlt! Pricey, better off with the ScanMaker 5. DNS Aptec Good scanner, good software bundle. DNS ScanMaker 5 £1,599 **\*\***\*\*/8.1 Included 1.000-x-2.000 3.5D 203-x-254 A4 0181 380 6600 Microtek 203-x-356 ScanWizard, PhotoImpact, Painter 5.0, Caere OmniPage LE, Lasersoft Silverfast. Aptec Umax £2,495 **★★★★**/8.7 Included 700-x-1,400 3.3D 290-x-432 A3 MagicScan Driver, PhotoPerfect, BinuScan. Joint Editors' Choice winner. IMC 01344 871 329 Mirage II Pro 290-x-432



£1.549

+++/85

included

**Tray play**The Agfa DuoScan T1200 has a separate tray for transparencies, making for a less cluttered scanning area.

Powerl ooklii Pro

Ilmax

capability. Scanning software isn't as sophisticated as vou'd wish, with its clunky interfaces and cryptic controls being the norm rather than the exception. Now that scanner hardware is approaching excellence, maybe scanner manufacturers should focus on making their software easier to use. Scanning is a mature technology

and manufacturers should be falling over themselves to get the edge on their competitors. Better software, it seems, is the obvious answer, but as yet nobody has taken the lead. Maybe next year will see this particular battle won or lost.

There is one change in the world of Macintosh computing that's going to alter scanners considerably. USB has already become the interface of choice for the entry-level scanners. This is because of the iMac, which preceded the USB-equipped Power Mac by about five months. Scanner manufacturers should have anticipated the move to USB at the high-end, and it still isn't clear how they intend to deal with it. There's one school of thought that says USB isn't fast enough to keep up with pro scanners and that they require a SCSI-compatible Mac. There are, though, good reasons for avoiding this.

The problem with SCSI isn't only that it's no longer a standard item on a Mac. Even if you go for the optional Ultra 2 SCSI card in your new G3, you should be careful how you plug your scanner into it. This is because that, while SCSI is good at being backwards-compatible, it can be at the cost of speed. If you have Ultra 2 SCSI with a super-fast hard-drive – and then plug in a scanner – the SCSI bus will drop in speed

to meet the scanner's slower SCSI speed.

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3 ND

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My suggested solution is to take advantage of the undervalued FireWire port that's now standard on the G3 models. Perhaps if a pro scanner had SCSI and FireWire it could bridge the gap between old and new, but scanner manufacturers have said nothing to make me think this will happen. SCSI is cheap but FireWire is expensive from a manufacturers point of view. By this time next year, I'm sure the industry will have presented a solution: the problem must be affecting sales already. Whatever the answer, it's likely to make scanners more expensive – at least initially.

## **Measuring quality**

Judging a scanner is a tricky business; there are plenty of tricks both to squeeze more performance out of a scanner, and to make the scanner appear better than it is.

Companies quote myriad stats when you ask them how good their scanner is.

Manufacturers assume people want to see ever-higher performance numbers. In the consumer market, the most often (mis)quoted number relates to resolution. Interpolated resolution is commonly quoted, but has little to do with the final quality of the scan, because using interpolation lowers quality.

The only figure relating to resolution you should take notice of is optical resolution. This is the real maximum sampling rate of the scanner, and it tells you how many CCDs (Charge Couple Devices) are used to each inch. Some scanners have two different resolutions, achieved by using different lenses. At first glance, this may seem as if companies are cheating in their bid to quote ever-higher resolutions. In fact, they are just using a clever technique to increase real resolution. The only downside to this method is that the scanning area is reduced - but it's a small price to pay. (This technology is used in some DuoScan and Microtek scanners).

Colour-depth refers to the number of colours a scanner can recognize. When we

talk about full-colour images on a computer, we mean 24-bit colour, which is around 17 million colours. It's enough that the human eye cannot tell the difference between similar colours. Fortunately, scanners are better at seeing colour, and depths of up to 42-bit are achievable. Even though the end output from your scanning software may be 24-bit, having a 42-bit colour gamut to work with means more accurate colour.

MagicScan Driver, BinuScan, PhotoPerfect.

216-y-297

Even if your scanner can see lots of colours, it also needs to be able to differentiate between shade density. The density range is a figure to describe how good a scanner is at this job. In a cheap scanner, you'll see that scans with detail in the shadow and highlight area of an image are often lost. The ability to recognize a broad range of densities makes for better scans: the higher the number, the more shadow detail you'll get.

Speed is an easy number to quote with most peripherals, but scanners are a little different. The speed depends on a number of factors: size of the scan; the software being used; and the scanner itself. Scanner speed is less important than scan quality, so it is unfair to compare scanners simply on speed. If a scanner can scan twice as fast as its competition, but at a lower quality, it is of little worth.

After the tangible measurements of a scanner's prowess comes software. Software is the one thing that can make or break a scanner: it can make a bad scanner good, or a good scanner bad. The only problem is that software is so esoteric that it's difficult to compare.

Whichever scanner you choose, it's worth spending some time getting to grips with its software. If you don't, you'll not get the best out of you scanner and may as well buy a £70 model. Often, you will only need to spend time setting up your scanner to your requirements just once. Then the rest becomes almost automatic. As I mentioned earlier, some software can be quite unintuitive and clunky, but this doesn't



Like the Saphir,, but cheaper.

mean that it's not powerful.

If you're not familiar with high-end scanning it may be worth asking your scanner dealer if training is available. This will ensure you will get the best from your scanner: most scanning problems stem from people rather than the hardware.

# **Soft options**

There are two main software packages used in the scanners we tested.

LinoColor Elite This ships with the Heidelberg scanners and is the latest version of the long-used LinoColor scanning software. All the tools are available to get accurate colour and it's fully compatible with ColorSync. It uses ColorAssistant to automate image processing, meaning it sets highlight and shadow and adjusts the chromatic curve and contrast for optimum results. This feature makes it possible to get professional results almost out of the box.

LinoColor Elite is included with all the Heidelberg scanners we tested.

**Binuscan** Comes with Umax scanners and adopts a different approach to colour-management. Instead of aiming for faithful accuracy, which will reproduce the flaws of continues page 86

# Editors' Choice

IMC

# **Opal Ultra 2 Heidelberg**

Macworld Rating ★★★★/8.7

The £2,495 Opal Ultra 2 works up to A3 size and its LinoColor Elite software means it is capable of productive high-end scanning.

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### Tranny tray

With its media tray for transparencies – and software including ScanWizard, PhotoImpact, Painter 5.0, Caere OmniPage LE, Lasersoft and Silverfast – the Microtek ScanMaker 5 is an able scanner.

an original, Binuscan aims to fix even bad photography. This is no small task, yet it does do an amazing job, making badly exposed film or inconsistent results perfect every time. The only time Binuscan was too clever for its own good was when it was presented with a picture with a

deliberate blue tint. Even Binuscan cannot tell if a colour tint was on purpose or by accident. If changes are numerous, though, it will bring this to your attention.

The way Binuscan works is similar to the how interpolation works with regard to resolution. When resolution is interpolated, two neighbouring pixels are used to guess what colour a pixel would be if there was an additional one between them, which increases resolution. Binuscan takes the Histogram of an image and spreads the information out to increase the steps of colour that's used. You can do this by opening a picture in Adobe Photoshop and looking at the levels (under the Image/Adjust menu). You should see a smooth and solid histogram. Now use the auto-adjust command and go back to see what it has done to the levels histogram. You should see the histogram has now become fragmented, like a comb with broken teeth. What Binuscan does is use artificial intelligence to fill in the missing information between the teeth of the comb.

Agfa has both versions of the DuoScan scanner included in this test. When the DuoScan appeared it was the first scanner to use a twin-bed approach to scanning. This means that rather than having a transparency adaptor in the hood, which is traditional, there is a separate tray for transparencies. This makes for a less cluttered scanning area, as the tray can be loaded with transparencies while you scan reflective art.

The DuoScan now has a more basic version that has a reduced resolution and other lower specifications. The DuoScan T1200 may seem under-powered, but at just £549 it offers transparency capabilities and other pro features that takes some beating at the price.

The T1200 competes with the Jade from Heidelberg, which offers similar specs at just £428, including transparency adaptor. It lacks the elegance of the twin beds but it makes up for that with its powerful bundled software.

The Saphir Ultra 2 shares many of its features with the Umax PowerLook III Pro and, in the past, there have been big differences in price. Now, costs are closer – and any choice comes down to software. LinoColor Elite and Binuscan are both capable and professional pieces of software.

A similar comparison can be made between the A3 scanners Opal Ultra 2 and the Mirage II – and this time the price is identical. If you prefer, you can buy the Mirage II SE for £1,000 less and forgo the Binuscan software, although it will seriously limit the capabilities of the scanner.

The Epson GT-1200 is also an A3 scanner, with an 800-x-1,600-dpi resolution, which is quite enough for professional work. There are two options available – one for graphics and one for document scanning. We examined the graphics bundle but, for the record, the document bundle includes OCR software and a duplex sheet feeder for scanning lots of text unattended.

The graphics bundle includes a transparency adaptor, which is a must for top-quality scanning. The software is in the form of a TWAIN driver, but, despite this, is very capable, even if it does lack the high-end features of some of the other scanner software packages.

The A4 Epson GT-9600 has similar options for document or graphic scanning. What it lacks in scanning area it makes up for a resolution of 800-x-3,200 dpi – made possible by its Epson MicroStep drive moving the scanning head by tiny increments.

Microtek's range of scanners runs from the low-spec ScanMaker 9600 XL to the ScanMaker 5, which is functionally very similar to the DuoScan, with its media tray for transparencies. The software is different, but just as able in terms of the control it offers and its ability in batch scanning.

Many of the scanners we tested are similar and it was hard to place one ahead of the other. Prices too have become more in line with each other, which makes the choice still harder. You need to decide whether you need an A4 or A3 model and then it's more a matter of software choice. The Linotype Elite and Binuscan packages offer the best professional solutions, but each works in a different way - so try to check both out. It becomes a matter of personal choice, but both are good enough. The other software packages are not too far behind either, so for a budget solution they will definitely be good enough. Wherever possible, try to get a showroom dealer to give you a demonstration: this will offer the best way to determine which model best suits your needs. At around £2,500, impulse buying could prove to be a costly mistake. Keep your eyes open for special offers.

# The final word

For the most productive high-end scanning, an A3 model is the best size. Two models – one each from Umax and Heidelberg – have very similar specs and identical prices. The only real difference is between bundled software and even this comes down to personal choice. In light of this, the Editors' Choice Award goes jointly to the Heidelberg Opal Ultra 2 and the Umax Mirage II Pro. They come with LinoColor Elite and Binuscan respectively.



Thanks to an ingenious array of new Mac programs, that little handheld device can now be a seamless extension of your Mac. Want to put Microsoft Office, FileMaker Pro, Quicken, or Eudora in the palm of your hand? Let us show you the

# MacPac Magic

The all-new MacPac software (Reviews, June 1999) comes in two parts. One is Palm Desktop, a made-over version of the address book/calendar program once known as Claris Organizer.

Of far more importance is the component most Mac fans don't know anything about: the behind-the-scenes software known as Conduit Manager.

Conduits are plug-ins from other software companies that create hookups between the Palm and various popular Mac programs. Thanks to this technology, the Palm can exchange data with your Mac applications, as long as someone has written an appropriate plug-in and you've placed that plug-in in the Conduits folder.

Now that the new MacPac has arrived, a flood of new conduits has also arrived. Here's a look at the first crop of Mac-Palm thirdparty conduits.

With these doodads installed, you can put your Palm organizer in

the included cradle, press a single button, and watch amazed as the palmtop synchronizes data - HotSyncs with all kinds of friendly Mac programs. Be warned: some of them are good enough to make you actually rethink drastically the way that you perform your work.

### **Business to Go**

At first you might consider it ludicrous to work with your business productivity data (in a Microsoft Excel spreadsheet, for example) on a handheld computer. Be surprised very surprised.

Microsoft Office It's no surprise that DataViz came up with Documents To Go 1.0 (£35; Principal, 01756 704 444), a handy converter. The company has been in the Mac fileconversion business for years. When you drag your Microsoft Word or Excel documents into the Documents To Go window. they effortlessly convert into Palm-readable format

and load onto your palmtop at the next HotSync. The entire process requires only a single mouse drag - or less, if you use the contextual control-click menu to select any Word or Excel file in the Finder. Better yet, if you edit the original document later, the Documents To Go conduit is smart enough to notice – and to send the revised version automatically to the Palm at the next HotSync.

Spreadsheets to go Documents To Go's
Palm-based

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On your Palm, you read these text and

The big bummer with Documents To Go is that remarkably smoothly, and even just the ability to read your Office documents while vou're in transit is a useful new way to multi-task.

FileMaker Pro His day job is writing software for Apple; good thing Rob Tsuk had time to write FMSync (\$38). This conduit synchronizes a FileMaker Pro database with Land-J Technologies' JFile (\$20 shareware; www.land-j.com), the most popular Palm database program (see "FileMaker gets small").

FMSync's intelligence is astounding; before the HotSync, you tell

spreadsheet documents using WordView and SheetView, tiny Palm programs designed for the purpose. These programs are thoughtfully designed – SheetView is the only Palm spreadsheet application, for example, DB: Talent=Dex Sel Name
Yes Marissa Alubel
Opera S
Sophia Smith
Yes Bob B. Slack
Sophie Cruskin
Yes Mary Mavens
Jazz
Yes Pierce Mavens
Fop
Elleen Brabbit
Opera
Elleen Ell that lets you split the spreadsheet into indiv-The FMSync conduit creates and maintain idually scrolling panes Sophie Cruskin R&B HTTR Mary Mavens Jazz SAG Pierce Mavens Pop SAG Eileen Brabbit Opera SAG Brenda Bratton R&B SAG Roxanne Flue Light r SAG B J Johnson Jazz SAG (see "Spreadsheets to nirror copies of your go"). Mac-based FileMaker (Done) (Add) (Find) (+) [Del] database (right). you can't edit the 0 translated documents: 0 0 the fact is, in version 1.0, your documents are read-00900 only. And it's a shame that WordView can't display bold or italics - a feature that's available in other Palm text readers. (DataViz says it's working on both issues.) Still, the software does what it does

it which FileMaker databases, and even which layouts in those databases, you'd like translated to the Palm. (Even if vour FileMaker database contains 300 fields, JFile can handle only 20. Therefore it's usually best to create a FileMaker layout - with 20 fields or less - exclusively for FMSync.) At the next HotSync, FMSync builds a matching database on your Palm, complete with named fields of the correct type and in the correct order. From now on, after a HotSvnc vour FileMaker database will reflect any changes you make on the Palm, and vice versa.

TALENT-DEX™

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AFTRA 9/8/64

9/8/64

 Mane
 Style

 ⊠Marissa Aubel
 Opera

 □Sophia Smith
 Jazz

 ⊠Bob B. Slack
 Pop

 □Sophie Cruskin
 R&B

As though that weren't enough power, you can even specify FileMaker scripts to run before and after the HotSync process. (You could locate clients in London postal code W3 who owe you money, for example.) A check box lets you control whether Jfile should receive the database or only the records in the currently found set.

Eudora, Outlook, and more Windows users enjoy the ability to read and reply to email on the Palm - even without getting a modem for it. At each HotSync, unread messages from their Windows email program appear in the Palm's built-in Mail program. Macintosh fans have been gnashing their teeth for years, unable to use Palm Mail. That wait is over, thanks to Actual Software's simple, cleverly designed MultiMail Conduit 1.1 (\$30; www.actualsoft.com). Each time you HotSync, your email from Qualcomm's Eudora or Eudora Light or (with version 1.2) Microsoft's Outlook Express – either unread mail or messages a specified number of days old transfers to Palm Mail. If you prefer, you can HotSync your email into the more powerful MultiMail Palm program itself (\$60 bundled with the Mac conduit), which can also retrieve your email directly from the Net if you buy a Palm modem. Either way, if you write replies on the palmtop, they transfer back to your Mac email program at the next HotSync. (Support for Claris Emailer is coming soon).

# Money matters

3Com calls its best-selling baby an organizer, but make no mistake: it's a real computer. (It even runs a Motorola 68000-family processor, just like Macs of old). As such, it's perfect for crunching your financial numbers.

Quicken You probably conduct most of your financial transactions, such as cash-machine visits and writing checks, when you're away from your desk. The Palm screams for a program that could record this information as you make your transactions and then dump this data automatically into Intuit's Quicken when you return home.

Enter LandWare's \$40 Pocket Quicken (www.landware.com). It's a nearly full-fledged Quicken clone, complete with transaction splits, memorized transactions, autofill, password protection, categories and classes, and a Quicken-like transaction register (see "Shrunken quicken").

At the first HotSync, the Pocket Quicken conduit sends your Quicken file's list of accounts, balances, and categories to the

# **Palm-to-Mac conduits arrive**

\*\$60 for MultiMail Palm application support. \*\* Emailer conduit in testing at press time. \*\*\* Not applicable: product was not shipping at press time

| COMPANY         | PRODUCT                  | STAR RATINGS | PRICE  | SYNCS PALM APPLICATION   | TO MAC APPLICATION   | COMMENTS  | CONTACT                                 | TELEPHONE     |
|-----------------|--------------------------|--------------|--------|--|--|---|---|---------------|
| Actual Software | MultiMail Conduit 1.1    | ★★★/6.5      | \$30 * | MultiMail*, Palm Mail  | Eudora, Eudora Light, Outlook Express,<br>Claris Emailer** | Process your Mac email on the Palm, no Palm modern needed.  | www.actualsoft.com                      |               |
| Aportis         | BrainForest Professional | ★★★★/8.6     | \$40   | BrainForest  | BrainForest  | Outliner, project tracker, and to-do list, on both Palm and Mac.                                  | custcare@aportis.com<br>www.aportis.com |               |
| Chronos         | Consultant 2.5.6         | ★★★/6.9      | £50    | Palm calendar, addresses,  | Consultant   | A richly featured — and networkable — alternative to Palm Desktop.                                | Softline                                | 0181 401 1234 |
| DataViz         | Documents To Go 1.0      | ★★★/6.8      | £35    | WordView and SheetView (included), and other doc-format readers. | Word, Excel, text editors                                  | Drag-&-drop skills are all that's required to get your Office docs to the palmtop.                | Principal                               | 01756 704 444 |
| FMSync Software | FMSync                   | ★★★★/8.6     | \$38   | JFile  | FileMaker Pro  | Smart, two-way, record-by-record syncing between FileMaker and JFile.                             | sales@fmsync.com<br>www.fmsync.com      |               |
| LandWare        | Pocket Quicken           | na***        | \$40   | Pocket Quicken   | Quicken 98   | Miniature Quicken clone with one-way transaction dumping into Quicken 98.                         | www.landware.com                        |               |
| Shana           | Expense Creator          | ★★★/6.9      | free   | Palm Expense   | Informed Expense Creator                                   | Generates simple expense reports from the Palm's built-in Expense program.                        | www.shana.com                           |               |
|                 | Expense Creator Advanced | ★★★/6.8      | £40    | Palm Expense   | Informed Expense Creator                                   | Generates fancy expense reports from the Palm's built-in Expense program.                         | Principal                               | 01756 704 444 |
| TeamSoft        | TeamAgenda 3.1           | na***        | \$130  | Palm calendar, addresses,<br>to-dos, memos                       | TeamAgenda.  | Intelligently grabs your schedule and contacts from TeamAgenda, a cross-platform group scheduler. | www.teamsoft.com                        |               |
| WalletWare      | Expense Plus             | ★★★/6.4      | \$70   | Expense Plus   | Excel, FileMaker, Informed Filler                          | Clever, sharp-looking expense tracker. Makes the built-in Expense app look like SimpleText.       | www.walletware.com                      |               |

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# **Putting the new MacPac to work**

f you're a Palm user, Palm's MacPac software is destined to become an integral part of your life. To save time and hassle, it's worth getting to know these undocumented shortcuts.

Calendar Kevs Palm Desktop's calendar, like the Palm's, offers three views - Daily, Weekly, and Monthly. You can quickly switch among the views via the keyboard shortcuts 第-shift-D. 第-shift-W, and %-shift-M, respectively. Or repeatedly click on the View Calendar icon on the tool bar to jump from view to view. To jump to the previous or next day, week, or month, press %-left arrow or **%**−right arrow instead – and if you throw in the option key as well, you jump a week at a time in Daily or Weekly views. In Monthly view, if you double-click on a calendar square, a dialogue box appears, asking if you're creating a Task, Appointment, or Event Banner. Double-click on the option you want - or just type the first letter and press return.

Address-book smarts you're entering names and addresses into Palm Desktop directly, don't bother pressing the shift key – Palm Desktop capitalizes the first letter of each name automatically. Nor do you have to format your phone number with parentheses and hyphens. Just by choosing Preferences from the Edit menu, you can select an automatic formatting option for your phone numbers, and then type them in their entirety without any punctuation.

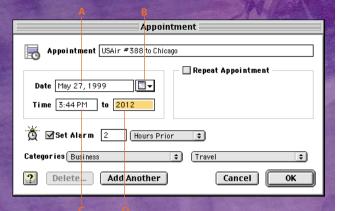
Another caution: resist the temptation to use the Email label in the first block of four phone numbers in Palm Desktop. Instead, enter each email address in the Email field at the bottom of the Contact window (in the Other Information area). Only this field is HotSynced to corresponding address-book email field. Finally. use the Comments field to store miscellaneous notes instead of attaching a Note; by doing so, you avoid having to face the Note Conundrum.

The Note Conundrum On the Palm, you can attach a Note to an appointment, to-do item. or address-book entry. In Palm Desktop, however, this noteattaching feature doesn't work the same way. Adding notes on your Palm device beautifully. When you HotSync, such notes transfer to Palm Desktop as attachments to the correct items, exactly as on the

The problem arises when you want to attach notes in Palm Desktop. They don't appear as attached notes on your Palm unless you take a peculiar step. You must name such a note using one of these special titles Handheld Note: To Do Item, Handheld Note: Address Book, or Handheld Note: Date Book (depending on the kind of item to which you're attaching the note).

After creating your note in this way, then you can attach it to a calendar, address book, or todo item (by dragging its handle onto the target item) - and it indeed HotSyncs to the Palm as a note attachment.

Multiple Personalities If you



To save time, use Palm Desktop's undocumented keystrokes. Change the date (A) by pressing plus (+) or hyphen (-), or click here (6) to choose the date from a pop-up calendar. Specify time ( ) quickly: 8a suffices for 8am, and 135 indicates 1:35pm. Press plus and hyphen to set the hour, and shift-plus and shift-hyphen to adjust minutes. Or just use a 24-hour clock (1); if you type 2115, Palm Desktop records 9:15pm.

HotSync two (or even more) Palm devices to the same Mac, you can make it easy to switch among different Palm Desktop data sets.

Open the folder in which Palm Users folder, open the folder with the first Palm device's name, and make an alias of the User Data file. Rename that alias – for example, "Dave's Palm IIIx" – and put it in your Apple menu. Repeat the process with the User Data file from your other Palm device, this time renaming the alias. From now on, you can switch Palm Desktop files by choosing the appropriate name from your Apple menu, cutting many steps out of the usual procedure

MacPac extras In addition to Palm Desktop, the new MacPac includes an assortment of clever

add-ons. (If you downloaded the MacPac from the Palm Web site, be sure to download the Palm Extras component as well.) The Faster HotSync software, for example, doubles the speed of HotSyncing to a Mac (to 112 Kbps instead of the usual 56). But don't install this utility if you HotSync the same Palm to Windows and

And if you're the proud owner of a late-model PowerBook or a Bondi blue iMac, you can actually HotSync by just pointing your infrared-equipped Palm at your computer's infrared jack - no cradle needed. This kit consists of four files you drag onto your Mac's System Folder icon, plus four files you install onto your Palm (their names end with the usual .prc suffix).

palmtop. You go about your business, recording transactions as they occur, enjoying how Pocket Quicken reduces writing to the bare minimum

Finally, you return to your desk. You press your HotSync-cradle button and watch in amazement as Quicken 98 launches by itself and, before your eyes, starts generating register transactions that reflect what you recorded on the Palm. The process is smooth as silk, even in the beta version we tested.

Major note: this data transfer is one-way. Your desktop never sends the transaction data to the Palm. Pocket Quicken is a sophisticated electronic scratch pad for recording transactions that you pour into your desktop computer.

**Expense reports** Another built-in Palm program long useless to Mac users is the Expense application, which lets you jot down travel and business expenses as they occur. On Windows, when you return home, Expense totals, categorizes, and neatly lays out all these expenses in a ready-to-print Excel spreadsheet.

Shana comes to the rescue with Expense Creator, a free program

included with the new MacPac. (To get it, download the Palm Extras file from www.palm.com or get Expense Creator directly from Shana at www.shana.com). It works exactly the same way - except that it doesn't require you to buy Microsoft Excel in order to print out your expense reports. This free program is actually a fully-fledged database application that retains all your expense reports, which you can search, summarize, and organize. Its breadth of preference settings is impressive, especially for a freebie: you can input your reimbursement rate for mileage, foreign-currency exchange rates, a date range for items you want to appear on the report, and so on. Shana's Expense Creator Advanced (\$30; www.shana.com) offers even more features and a wider selection of report templates. It's better suited to hard-core corporate types, since it lets you add your logo, calculate sales tax, create custom fields, and more.

Macintosh users can now use the Intelligent expenses Expense program built into the Palm - too bad it's so bare bones. Among other limitations, it lets you tag each expense with one of 28

continues page 96

categories (Dinner, Taxi, and so on) - but if vou want to record an expenditure that's not on the list of 28 types,

you're out of luck.

If expense reports are an integral part of your life, you'd be much happier with WalletWare's Expense Plus (\$70; www.walletware.com). Thanks to its unusual level of intelligence and logic, recording expense as complex as "Taxi to the restaurant today, paid in cash, £5, to meet with Bob Smithers" takes only four taps. The large icons for specifying such data aren't just easy targets - they're in shades of gray, making Expense Plus the first commercial program to take advantage of the Palm's greyscale screen features. You can even enter pound sterling amounts by pressing the Palm's scroll buttons, making it easy to record an expense on the run without the stylus.

When you return home, a HotSync transfers all of your data into your choice of Mac expense-report-generating software: Excel, FileMaker, Expense Creator, or any AppleScript-savvy program you care to script. However, it's important to note this program's size: 326K, absolutely massive by Palm standards.

Organizing done better

Palm Desktop is an important part of the MacPac: for the first time, it offers a betterthan-decent address book/calendar for Mac fans (and it's free). But that doesn't mean

there's no room for improvement: the Palm Desktop calendar isn't networkable, for example.

Eudora AWOL It's been two years since Qualcomm bought Now Up-to-Date and Contact and promised to merge the two programs into a single, updated application with Palm connectivity. But at the time of going to press, Qualcomm refused to promise to ever ship the new Eudora Planner, with or without Palm connectivity.

Chronos consultant But that's OK, because a newcomer has filled the void - Chronos's calendar, address-book, to-do, and memo program, Consultant 2.5.6 with Conduit 1.10 www.chronosnet.com - See Reviews, June 1999). This potent, fullfledged program is an organizer along the lines of Palm Desktop itself - but offers a prodigious list of extra features, such as a built-in journal, speech, a customizable button bar, Gantt charts, networkability, and copious preference options. And unlike Palm Desktop, Consultant lets you attach notes to your appointments and other records without creating any weirdness (see "Putting the new MacPac to work").

As disappointed corporate users have discovered, Consultant's networking feature is its weakest link. It relies on file sharing, not a server like the defunct Now Up-to-Date, and you can send only private appointments to the Palm; public events get stranded on your Mac. If hard-core networking isn't your thing, though, you'll appreciate the cool looks, modern feel, and English-translation features of Consultant.

TeamAgenda For Mac fans pining for the server-based convenience of shared group calendars à la Now Up-to-Date, the solution is at hand. TeamSoft's TeamAgenda 3.1 (£99; Principal, 01756 704 444), in beta testing as this story went to press, seems to

Register e ▼ Ref & Payee Shrunken quicken If you use Ouicken, you'll feel riaht at home with the Pocket version on your palmtop. The program even auto-completes New... | Accounts transactions for you. 0 exactly as on the Mac. 6 0

> the MacPac: for the first time, it offers a better-than-decent address book/calendar for Mac fans (and it's free).

> Desktop is an important part of

have it all. It's fast, stable, small, crossplatform, mind-bogglingly flexible, and inexpensive (£99 per seat for four users, with the per-user price decreasing as you buy more copies). You can scale the time "slices"

TeamAgenda's Day View from five minutes to two hours, specify fonts for everything, and even compare multiple agendas side by side. The program syncs with FileMaker, offers an optional interface, and is as simple to use as you could expect a group scheduler to be.

The included, Palm conduit lets you specify what range of dates you'd like HotSynced and uses logical rules to govern how TeamAgenda's various appointment types transfer.

**BrainForest Professional** www.aportis.com - see Reviews, June 1999). Aportis Technologies' BrainForest is the commercial incarnation of the popular Palm shareware program Outliner. The program is like a cross between an outliner and a project scheduler - it lets you add check boxes or due dates to each item in the outline.

Now BrainForest Professional comes in a smooth, solid Macintosh version of the program, with files the Palm version can read. BrainForest is not, however, a true conduit it can't intelligently resolve simultaneous changes made to the Mac and Palm versions of your outlines. Instead, it's up to you to keep track of where the current version of

your complete file exists - on the Palm or on the Mac.

Coming soon The floodgates have opened. Among the Mac programs soon to HotSync with the Palm: On Technology's (www.on.com) Meeting Maker, a corporate scheduling and calendar program; CS&T's (www.cst.ca) Corporate Time enterprisewide, crossplatform calendar, scheduling, and email program; Century Software's (www.centsoft.com) ClockWork Day Planner personal calendar and to-do manager; and, we suspect, many more.

## The last word

In attempting to track the popularity of the Palm among Mac fans, Palm Computing once tallied the sales of the MacPac. Today, however, Mac fans don't actually need to buy the MacPac. They can download the free software and buy the necessary cradle adaptor for \$6 from Palm Computing (or, since it's a standard serial-port adaptor, from an electronics shop).

Therefore, Palm now gauges Mac interest by watching subscription requests for InSync Online, the company's free email tricks-and-tips newsletter. You can sign up for it at www.palm.com (specify that you're interested in Mac information).

More important, the company closely monitors the registration cards for newly purchased Palm devices. (You won't wind up on junkmail lists if you check the "I prefer not to receive mailings" box). It's worth mailing that card (with the Macintosh check box selected) to ensure that 3Com hears from the Macintosh crowd. After all, now more than ever, the world's most elegant palmtop and the world's most elegant desktop computer are a match made in heaven.

David Pogue is the author of PalmPilot: The Ultimate Guide, second edition (O'Reilly, 1999).





# Director's cut

# How to make multimedia without tiresome scripts. By Jim Heid

hat if I said you could create an interactive project in Macromedia Director without having to write scripts in Director's Lingo language? You'd probably wonder what I was smoking. With Director 7, it really is possible to make multimedia without having to learn a lick of Lingo. Director has always required tiresome scripting to add even a simple navigation button, but Director 7 is a brand-new, friendlier beast that even beginners can use without needing to take a three-day training seminar.

Macromedia has greatly enhanced and expanded Director 7's library of behaviours – canned Lingo scripts that you attach to media elements – to make quick work of many authoring chores: navigation, QuickTime-movie playback, and accessing media over the Internet.

To demonstrate how much easier multimedia authoring is in Director 7, let me guide you through the process of creating an interactive project using the drag-&-drop ease of Director's helpful new features. Along the way, I'll pass along some extra tips for using Director 7. I've also created an example project you can download from www.macworld.com/more/
1999/05/index..html. It incorporates an opening screen, a main menu, screens containing text and QuickTime movies, and another screen that dynamically loads a Web page.

# Step 1: Import your media

The first phase in a Director project often involves importing media – movies, graphics, sounds, and so on – that you've created in other programs. As with previous Director versions, you use the File menu's Import command to bring elements into the Cast window, Director's database for holding your project's elements.

You can also import media from the Internet by clicking on the Import dialogue box's Internet button and entering a URL. If you choose Link To External File from the Import Type pop-up menu, Director 7 creates a link to the Internet-based media rather than importing the actual file. Then each time the project runs, Director



automatically updates the media – perfect for CDs that retrieve updates over the Web.

You can also import media by dragging and dropping media files from the Finder to the Cast window.

# Step 2: Structure the score

Director's Score window provides a timeline-like view into a project's overall design, with numbered frames that hold media elements, scripts, behaviours, transitions, and more. Normally, Director wants to play a project straight from first frame to last. That's fine if you're simply creating an animation, but it's not suitable for an interactive project where the

continues page 102

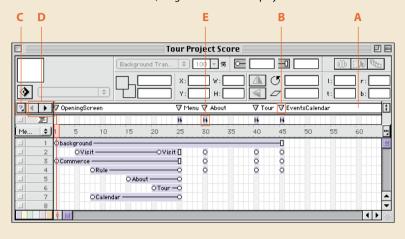


# Make your mark

Markers are bookmark-like placeholders that you create to serve as targets for scripts and behaviours, to help you navigate through a project in progress, and more.

To create a marker, click in the Markers channel (A) in the Score window and type the marker's name. To move a marker, drag

its upside-down triangle (B). To jump to a specific marker, choose its name from the Marker pull-down menu (C), and to jump to the next or previous marker, click on the arrow buttons (D). The Hold On Current Frame behaviour under each marker (E) retains the playback in the current frame.



playback sequence depends on a user's navigation choices. In previous Director versions, controlling playback usually meant writing Lingo scripts. For example, it was common to write a script that would essentially tell Director, "Play the current frame over and over again until the user clicks on a button; then jump to frame X." Director 7's enhanced behaviour library eliminates this manual labour.

Director's Jump To Marker Button navigation behaviour relies on markers, those handy bookmark-like placeholders you can create in the Score window. Since you'll typically use this behaviour throughout projects, it's essential to create markers for each scene in a project (see "Make your mark").

Markers are also convenient navigation aids. Using the Markers window or the Score window's Markers menu, you can quickly jump to a section of the Score without having to scroll your way there. With a feature that debuted in Director 6, you can also use markers to synchronize a project's playback to an audio track.

## **Step 3: Create your screens**

With your markers made and your media imported, you're ready to create your screens. Use Director's built-in tools to create text headings, bitmapped graphics (see "Embed a font"), and vector shapes as needed. Drag media elements such as QuickTime movies (see "Easy QuickTimemovie playback") from the Cast window onto the Stage or into the Score. When you do, Director creates a sprite – a capsule of information – that controls the Cast member's appearance, location, duration, and other properties.

Finally, use the Score window to finetune the duration of the sprites. In my example project, most sprites have a duration of just one or two frames – I used behaviours that cause playback to loop on a single frame until the user clicks on a navigation button.

If you know in advance that most sprites will have a specific duration, set Director's preferences accordingly and save yourself some spriteresizing time. To do so, simply choose Sprite from the File menu's Preferences sub-menu, and in the Sprite Preferences

dialogue box, type a number in the Frames text box next to Span Duration.

# **Step 4:** Add interactivity

With your cast of characters in place, you're ready to attach behaviours to them using the new Library palette. Attaching a behaviour to an element generally involves just dragging the desired behaviour from the palette and dropping it onto the element (see "Make buttons behave" and "Display updating Web text").

Some behaviours require additional parameters – the name of the marker to which you want to jump, for instance, or the address of the Web page you want to display. When you attach one of these behaviours, a dialogue box for supplying the required parameters appears.

You can (and often must) attach multiple behaviours to a sprite. If you're creating a button that jumps to a marker, for instance, you might first attach the Push Button behaviour to control a sprite's appearance, swapping in different Cast members for rollovers and mousedown events. Then you might attach the Jump To Marker Button to specify what you want that button to do.

# Step 5: Test and deploy

After you've fleshed out your project's interactivity, you can save it as a standalone application (called a projector, most commonly used for CD distribution) or as a Shockwave movie (which can play in any Web browser with the Shockwave plug-in).

For Shockwave development, Director 7 includes numerous new behaviours that simplify the tricky process of creating streaming projects (projects that play back as they download). By using these behaviours, you can ensure, for example, that all media required for a particular section load before it plays.

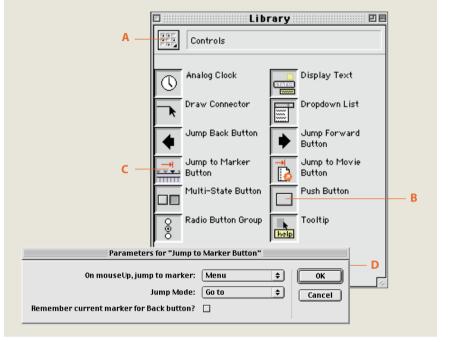
The behaviours you're likely to use most often are the looping and jumping behaviours, which enable you to pause and otherwise control playback while items download. And also experiment with the

# Make buttons behave

Director 7's library palette is the gateway to creating buttons that change when a user clicks on them. The Push Button behaviour in Controls makes it easy to create multiplestate buttons (you can access categories via the Library List pop-up menu (A).

First, create a Cast member for each of the button states you want to implement: normal, mouse-over, mouse-down, and so on. Position the normal-state version of the graphic on the Stage. Then drag the Push Button behaviour (B) to the graphic. In the

Parameters dialogue box, specify the Cast members to use for each state. Note that the Push Button behaviour affects only the appearance of the button – it doesn't actually program a jump to another section of your project. To do that, use one of the Navigation category's behaviours. Or use the Jump To Marker Button behaviour (C) in the Controls category: drag the Jump To Marker Button behaviour to the button, and choose a marker from the pop-up menu (D) in the Parameters dialogue box.



progress bar and placeholder behaviours – they enable you to provide essential visual feedback to users.

If you're creating Shockwave-destined projects, take advantage of the File menu's new Preview In Browser command. It

continues page 104

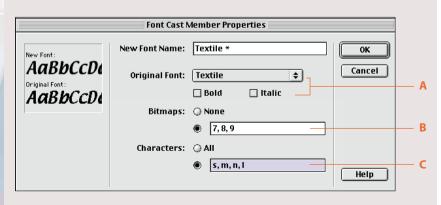
# **Embed a font**

To ensure that your project's text displays in the desired font, embed that font in your project. Choose Font from the Insert menu's Media Element sub-menu, and complete the Font Cast Member Properties dialogue box.

First, choose the font and style to embed (A). If your project contains text in small point

sizes, you can often improve its legibility by embedding bitmapped versions of the font in those sizes. Enter all the point sizes here (B).

If small file-size is paramount – for Shockwave-destined projects, it usually is – you can embed characters only (instead of the entire font) by typing them here (C).

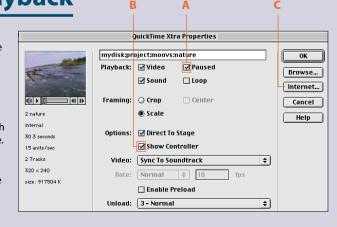


# **Easy QuickTime-movie playback**

Director 7 provides a variety of ways to play QuickTime movies in a project, and most require working with multiple behaviours or Lingo scripts. But there's an easy way to implement basic movie playback.

First, select the movie in either the Cast window or the Stage window. Choose Properties from the Modify menu's Cast Member sub-menu. In the Properties dialogue box, click on Options and complete the QuickTime Xtra Properties dialogue box. To have the movie open but not play immediately, check Paused (A). Then check Show Controller (B) to display the standard QuickTime-movie controller, which enables users to play, pause, and scroll through the movie and adjust its volume.

In order to link to a movie located on the Web, click on the Internet button (C) and type the movie's URL in the subsequent dialogue box.



Macworld JULY 1999



# **Display updating Web-text**

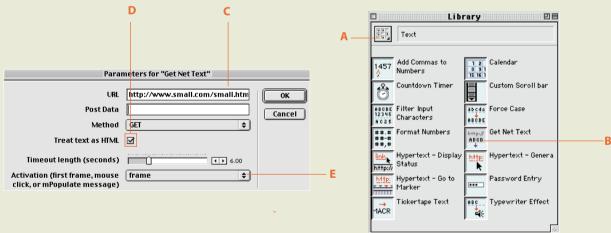
The Get Net Text behaviour (in the Library palette's Text category, via the Library List pop-up menu (A) is your key to creating interactive projects – such as CDs – that retrieve up-to-the-minute text updates from the Web.

To do this, create a text Cast member containing placeholder text and position it on the Stage. Specify the text box's size in the Sprite Properties dialogue box, which you access by choosing Properties from the Modify menu's Sprite sub-menu.

Next, drag the Get Net Text behaviour (B) onto the text box and complete the Parameters dialogue box. Specify the URL (C) of the file you want to display. If the file contains HTML formatting tags, check Treat Text As HTML (D).

In my example, I used HTML for basic formatting, such as the bold headings and line breaks. To have the text box update as soon as it appears, choose frame from the Activation pop-up menu (E). The HTML page then appears, formatting intact, within your project.





enables you to assess how your project will behave in a browser. And speaking of Shockwave, no Web-destined project is complete without a visit to the bundled Aftershock utility. Aftershock not only creates the tags necessary to add a Shockwave movie to a Web page but it also gets rid of some of those annoying "missing plug-in" errors. For example, you can specify that users lacking Shockwave see a JPEG placeholder image instead.

### What's next?

The process I've outlined here doesn't create a project with the complexities of Myst, but it does incorporate the most commonly used media types and navigation

techniques. And as promised, it didn't require a lick of Lingo. Well, actually, I'm lying. The truth is, behaviours are Lingo scripts – indeed, they're often extremely complex Lingo scripts. You just don't have to type them in yourself. After you've mastered Director 7's behaviours, consider exploring the scripts behind them (use the Behaviour Inspector to view scripts). They're littered with comments that describe their workings, and studying these can help you when you're ready to move up to the next step: learning Lingo.

Jim Heid began working with Director when it was still called VideoWorks.





# Drummed out

# How to salvage a drunk drummer's live shambles. By Christopher Breen

s MIDI musicians know, with the help of a synthesizer, sequencer, and Macintosh, you can easily build a song from the ground up – create a drum track, loop it, add other instrument tracks, toss in vocals and non-MIDI instruments, mix, and master, and before you know it, hello royalty checks and backstage cheese trays. What may not be so apparent is that MIDI can be just as useful in the post-production process of live recordings.

Replacing basic drum tracks on a live recording is the kind of chore that only the bravest audio engineers attempt. After all, unless the drummer is fuelled by machine oil rather than beer, tempos are likely to drift, making it difficult to overdub a completely new drum track. However,

using MIDI, it's possible to replace these acoustic drum tracks with synthetic drums while maintaining the tune's live feel.

In the steps that follow, I talk about using Opcode's Studio Vision Pro to replace drum tracks, but you can use any professional sequencer, such as Mark of the Unicorn's Performer, Steinberg's Cubase VST, or Emagic's Logic.

# **Getting connected**

To turn drum tracks on your tape into MIDI notes, you must route the audio signal to the proper destination. Additionally, the tape deck and sequencer must be in sync. Here's how to make all the right hook-ups.

The sequencer depends on time code to sync with the tape deck, so if you don't continues page 108

# The right connections Drum Module Multitrack Tape Deck Audio Mixing Board **Audio Outputs** Audio outputs to trigger inputs Kick-drum track Snare-drum track SMPTE track SMPTE track to MIDI interface MIDI In/Out from drum module to MIDI In/Out 1 of MIDI interface Serial connection from MIDI interface to Mac Along this connection travels SMPTE and MIDI information. MIDI Interface Mac

NF HURTY



# The sequence of events

### Step 1: Set-up your sequencer

nce you set up your MIDI system (see "The right connections"), the next step is to configure a sequencer, such as Studio Vision Pro, so that it records MIDI from the correct source and syncs to the time-code track.

In Studio Vision Pro (which I'll refer to as Vision), choose Enable Input Devices from the Set-ups menu and select the drum module as an input device. This ensures that Vision records MIDI information generated by the drum module. Select MIDI Timecode as your sync source, and choose the Wait For Note option so that Vision starts recording when it detects the first MIDI event. Record-enable a track in the sequencer – this will be your MIDI drum track – and select the drum module as the instrument source. Press Vision's record button, and start the tape a few seconds before the beginning of the tune to give the tape deck and sequencer time to sync up. Play the tune all the way through, and stop the tape at the end. The MIDI kick- and snare-drum parts should now appear in the track.

Drum triggers are not as accurate as the human ear and usually only approximate a drummer's performance. In this step you'll use a filter to remove the most obvious extra notes. When triggers misfire, they sometimes play repeated notes. These notes are often quieter than the ones you want to keep. To clean out most of the unwanted notes, use a filter to remove those that fall below a certain velocity. For example, if most of your snare hits have a velocity of 90 and greater, create a filter that selects only the notes with a velocity of 80 or less and then delete those notes. Now play back your track and delete any stray double-hits that escaped the filter. Insert any notes that weren't recorded.

### Ready to roll

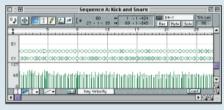
With Timecode set as the sync source and the drum machine chosen as the input source, Vision is ready to record.

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# **Step 2: Filter false triggers**

rum triggers are not as accurate as the human ear and usually only approximate a drummer's performance. In this step you'll use a filter to remove the most obvious extra notes.

When triggers misfire, they sometimes play repeated notes. These notes are often quieter than the ones you want to keep. To clean out most of the unwanted notes, use a filter to remove those that fall below a certain velocity. For example, if most of your snare hits have a velocity of 90 and over, create a filter that selects only the notes with a velocity of 80 or less and then delete those notes. Now play back your track and delete any stray double-hits that escaped the filter. Insert any notes that weren't recorded.



### Too many notes

Because drum triggers don't track precisely, you tend to get extra notes (top). By applying a velocity filter, you can weed out many false triggers, resulting in a cleaner drum



already have time code on the tape, stripe your tape with SMPTE. To send the SMPTE track to the sequencer, patch the tape deck to your MIDI interface's SMPTE input port via the mixing board. Now send the taped drum tracks to the drum module by patching the kick-drum track from the mixing board into the first trigger input on the drum module and the snare-drum track into the second trigger input. (At press time, Alesis, [www.alesis.com] was the only company that offered drum modules with trigger inputs). Be sure to assign a different

MIDI note value for the two triggers – for example, have trigger 1 output MIDI note number 36 (C1, the note name associated with a General MIDI kick drum) and trigger 2 output MIDI note number 38 (D1, the note name associated with a General MIDI snare drum). Play the tape to adjust input levels on the drum module. If the MIDI drums trigger too readily or fail to trigger on quiet notes, adjust the input sensitivity on the drum module and the output on the mixing board. It's better to err on the side of triggering extra notes

### Step 3: Turn the beat around

f your only goal were to replace the kick and snare on your live track, you'd be nearly done. All that would remain would be to tinker with the velocities and timing of the MIDI drums and record these MIDI tracks back to tape. But why stop now, when you have the opportunity to make your upcoming MIDI overdubs easier by following one more

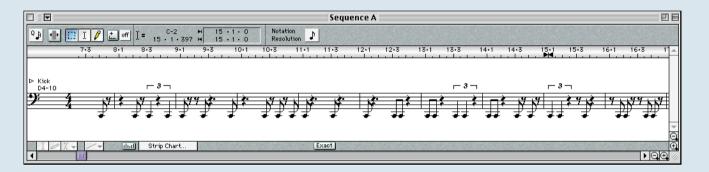
If you glance at the kick and snare parts, you'll notice that they don't line up with the sequence's bar lines and beats. This means that you won't be able to quantize (align notes to a rhythmic grid) additional MIDI parts with beats and bar lines, much less quantize the kick and snare parts you've just recorded. Therefore, you must impose order on these bars and beats by moving the sequence's bar

lines to match what the kick and snare are playing. You'll do that by creating a click track and using Vision's Reclock command to create a new tempo map based on that click track (see "Align the band"). If necessary, then move the drum parts so that they begin at the right time. Here's how

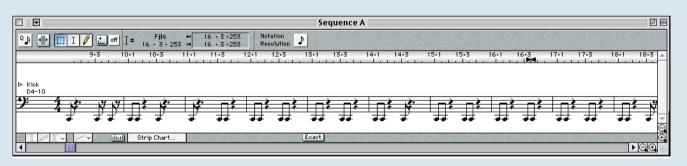
Rewind the tape to the beginning of the song, record-enable a new MIDI track, and select a MIDI controller – a MIDI keyboard, for example – to record notes into that track. Choose that controller as your input source. Press Vision's Record button; start the tape; and on the controller, play a single note middle C, for example – on each quarter note. Continue tapping out quarter notes until the tune ends. A steady stream of quarter notes should appear in the track you just recorded.

Now listen to the tape with your quarter-note accompaniment. If there are gross timing errors, fix them. The track you just recorded is the outline for your new tempo map – it establishes where the beats and bar lines go. To create the tempo map, select the notes in this track and choose Vision's Reclock command. The sequencer now creates bar lines and beats around the notes you played.

Reclocking sometimes causes the sequence to shift in time – throwing it out of sync with the tape. If the sequence is horribly out of sync, use the sequencer's offset command to shift the sequence forward or backward in time. If it's just a little off, consider using your sequencer's Play Shift function to incrementally move the snare- and kick-drum beats forward or backward.



Before re-clocking, the notes representing the kick-drum part don't conform to begts or bar lines (top). After re-clocking, the kick-drum notes line up nicely (bottom)



– you can fix those later by filtering out notes below a certain velocity (see Step 2).

# **Alternative projects**

Granted, overdubbing MIDI drum tracks onto a live recording isn't the kind of project you're going to tackle every day, but many of the techniques in this article can be used in other projects where a tune is based upon a freely played performance.

Here are a couple of other ways to use MIDI for post-production work.

■ The reclocking technique employed in

Step 3 can easily be applied to a freely played piano solo in which you wish to add – and quantize – a further selection of instruments.

■ Skip the click track altogether if you have a steady, rhythmic track - such as a MIDI bass-guitar part or the left-hand portion of a piano part. Just copy that track, strip out those notes that don't outline the beat, and apply the Reclock command to that track.

Christopher Breen worked as a professional musician for 15 years.

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# Affordable fixes

# How to tackle Mac headaches with shareware. By Ted Landau

too small to worry about – yet these problems can be widespread and extremely annoying. Here's a list of some of the most common problems that bother Macintosh users, as well as the right shareware utility to fix each one. As ever, *Macworld* makes life easier and cheaper for you, by including all these programs on our cover-mounted CD. Remember to register your software if

hareware authors take on problems commercial developers often consider

# How do I quit nothing?

you find it useful.

"I get an error message that says I can't do some task until I close all applications. However, when I check the Application menu, it lists nothing besides the Finder. What's going on?"

Use Peek-a-Boo You're probably running a background (or faceless) application. This hybrid, which is halfway between standard applications and extensions, may be open even though the Application menu doesn't list it. Fortunately, there are utilities that list all open processes (a generic term for both background and ordinary applications) and let you quit them.

My favourite is Peek-a-Boo (Clarkwood Software; \$20). Peek-a-Boo not only lists all open applications but also displays the



percentage of time your processor spends with each open program (see "Reveal All"). This can help you spot processor hogs that may be slowing down your Mac. You can choose to quit the hog or use Peek-a-Boo to change its priority ranking. Setting an application's priority to low causes it to request less of the CPU's attention if several applications are open at the same time. If the priority is set to high, the application automatically gets more processor attention

# A tornado hit my desktop

"Whenever I change the resolution of my monitor, my desktop icons get moved to new locations. My desktop now looks like an experiment in chaos theory. Even worse, when I return to my default resolution, the icon locations stay messed up."

**Use Desktop Resetter** Changing a monitor's resolution isn't the only way to mess up your desktop icons. Another way is to use the Finder's Clean Up command.

continues page 112

# **New faces for old favourites**

ometimes all it takes to fix a problem on your mac is updating software. Here are three scenarios in which shareware you already have installed may be showing signs of age.

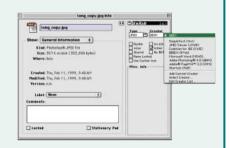
Misbehaving Stufflt Expander Does Aladdin Systems' freeware Stufflt Expander refuse to decompress certain files? Your copy may be too old – Stufflt Expander 4.5 can't decompress Stufflt Deluxe 5.X or DropStuff 5.X files. Upgrade to version 5.1 or later.

**Misguided TechTool** Does TechTool report that your System file is damaged, even though you just installed a clean new copy of your system software? MicroMat's freeware utility is great for rebuilding the

desktop, zapping your PRAM, and checking your System file for damage. However, every time Apple comes out with a new version of the Mac OS, you have to update TechTool as well – otherwise it erroneously reports that the System file is damaged. If you're using Mac OS 8.5.1, you need TechTool 1.1.8.

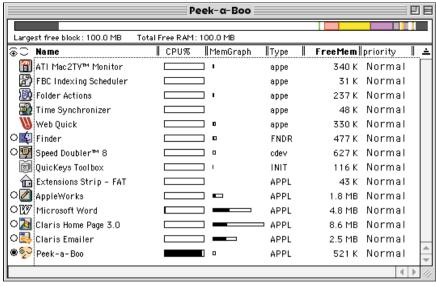
**Snitty Snitch** Do you get a system crash or other error when opening a file's Get Info window? If you use Snitch (Nifty Neato Software; \$20) with Mac OS 8.5.X to add options to Get Info windows, make sure you have Snitch 2.6. Earlier versions simply won't work. If you've upgraded to Mac OS 8.5.1, you'll need

a Snitch patch to get to version 2.6.1.



## Get the right info

Snitch puts handy options in the Get Info windows of your files. If you need help making changes, you can refer to Snitch's pop-up menus of common choices.



Peek-a-Boo lets you see applications running on your Mac that you might not otherwise know were there. Only the items preceded by a circle appear in the Applications menu.

After vou're done shouting obscenities (which the icons routinely ignore), you still have to put all the icons back in place.

You can avoid this with Desktop Resetter (Nick D'Amato; \$10; Click just one Desktop Resetter button, and the program memorizes where your icons sit. When icons stray, just click another button to put them back where they belong.

## It's a hassle to print from the Web

"When I want to print some text from a Web page how can I avoid having to copy the text to my word processor?"

## **Use Net-Print or WebPrint Plus**

Install either Net-Print (John More; \$15) or WebPrint Plus (Steve Becker; \$15), and you can print any selection right from your browser. Even better, you can append separate selections to one file. Neither utility can print graphics, and you'll lose HTML-based text layouts. But for simply printing text, there are no easier solutions.

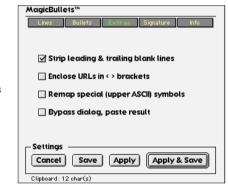
# My email is full of odd characters

"When I copy an email message to my word processor, hard returns appear at the end of each line – preventing the soft wrap that usually occurs. Plus I'm stuck with those angle brackets (>) that appear at the start of each line of quoted text. Isn't there some fast way to clean all this up?"

Use MagicBullets This utility makes cleaning up your text as easy as copying it to the Clipboard. Just use **%**-shift-C, instead of the usual **%**-C, to have MagicBullets (Bill Karsh; \$5) clean up unwanted characters in your text. Then you can paste it back over your original selection (see "Clean-up time"). Other text-cleaning utilities cam do more, but none are quite as seamless to use.

## I've lost all my hard drive data

"My hard disk just crashed. No utility could repair the drive or recover files from it - not Disk First Aid, not Norton Utilities, not anything. Short of spending the big bucks to



MagicBullets helps you clean up text, such as text you aet via email. It can, for instance, aet rid of extra spaces and blank lines and enclose all URLs in brackets

get help from a disk-recovery company, is there any hope of getting back my files?"

**Use Data Rescue Data Rescue** (The Wild Bits; \$39) is the business for data recovery. Although every recovery utility claims to recover certain files the others can't, no utility is successful as often as Data Rescue. It won't fix your drive; you'll still have to reformat that when you're done.

Ted Landau's MacFixIt Web site (www.macfixit.com) contains a library of the latest and greatest in troubleshooting utilities.

Macworld's features editor David Fanning and contributing editor Lon Poole answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to David Fanning, Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send mail electronically, marked Q&A in the subject line, to david\_fanning@macworld.co.uk or via fax to 0171 405 5308. We pay £25 for each tip

We cannot make personal replies, so please do not include a stamped-addressed envelope.

# &Tips

# Access your whole drive over the Web



I use Mac OS 8.5's Web Sharing feature to access my office computer's hard drive via the Internet. But when I connect as the owner, I can see all the files on the hard

disk but I can't download some types of files from nonshared folders. For instance, SimpleText and Deneha Canvas documents download fine but I'm denied access to Microsoft Word documents unless they're in a shared folder. The Web Sharing control panel is set to use file sharing, for controlling user access (for obvious reasons); the Web Sharing preferences are set to allow aliases to open items outside the Web folder, and that folder contains an alias of my hard drive. So what am I missing here? I can't for the life of me figure this one out. Robert Benezra

Unlike File Sharing, Web Sharing doesn't allow someone connecting as the owner to access all files on the hard-drive unless the drive has been explicitly set for sharing. Use the Finder's Sharing command to turn off the option Share This Item And Its Contents for each folder you currently share. Then turn on this option for the hard drive, and set the owner privileges for the drive to Read-&-Write.

If necessary, you can also grant access privileges for the drive to a user or a group, and you can set access privileges differently for individual folders inside the drive. To prevent guest access, open the Users & Groups control panel, double-click the Guest icon, and make sure the option Allow Guests To Connect To This Computer is turned off. Instead of using Web Sharing to access your files over the Internet, you might want to try OpenDoor Networks' ShareWay IP Personal

(www.opendoor.com). This \$79 utility, on this month's Macworld cover CD. magically makes the Mac OS's built-in personal file sharing available over the Internet or a TCP/IP intranet. To access your office machine's hard drive through the Chooser on another Mac connected to the Internet or intranet, click the Chooser's Server IP Address button and type in the IP address of your office Mac. Then follow the usual procedure for connecting to a shared drive or folder; for example, enter the owner name and password in one dialogue box and select your office Mac's hard drive in another dialogue box. In a few moments, your office Mac's hard-drive icon will appear on the desktop of the remote Mac you're using, and you're in business.

You can also try Stairways' \$10 shareware FTP server NetPresenz (www.macdownload.com). It has more complex configuration options than Web Sharing, but it's faster and handles owner access like File Sharing does. Plus, you can use a

# extension management • Sherlock • floppy speeds

Web browser instead of an FTP client to access the FTP server. If you've blocked guest access to your FTP site, put your user name into the URL for your FTP site; for example, ftp://yourname@ftp.yourdomain.com. The browser will then ask for your password, unless you're using Microsoft Internet Explorer for Windows. In that case, you must include the password in the URL; for example, ftp://yourname: password@ftp.yourdomain.com. For security,

quit the browser when finished.

## Take the pain out of extensions

start-up sets.

Extensions are notoriously difficult to get properly housebroken. After painstakingly creating several custom start-up sets in Apple's Extensions Manager, it's all too easy to find that every time you install new software, it sprays its extensions and control panels into all of your custom

You can try locking your start-up-set files (which reside in the Extensions Manager Preferences folder, inside the System Folder's Preferences folder) via the check box in their respective Get Info windows. Although this works, the Extensions Manager then insists on making copies of the files whenever you try to select them. The solution is to change each start-up set's file type from ESET to tamperprotected RSET with ResEdit or any other utility that lets you change a file's type. A start-up set whose file type is RSET appears with a padlock icon at the top of the Extensions Manager's Selected Set menu, just like the Mac OS Base set.

### No-Hassle Sherlock indexing

If you want Mac OS 8.5's Sherlock program to index your hard drive after-hours but don't want to leave your computer on all night, use the Energy Saver control panel. Set it to start-up your Mac several hours before you need it in the morning, and schedule Sherlock to begin indexing shortly after start-up. If you set these automated events to happen daily, your Sherlock index will be current every morning. ■ If you prefer, you can have Sherlock index your hard drive just before your computer shuts down. At the end of the day, begin the indexing process in Sherlock. Once the Indexing Progress dialogue box appears, switch to the Finder and shut down the computer. During the shutdown process, an alert appears asking whether you want to finish indexing before shutting down. Click this alert's Continue button and the computer will shut down after indexing is complete. Or you can simplify the whole procedure by using the \$10 shareware Index & Shutdown from

# **Enjoy Enhanced Open and Save**

It's possible to resize Mac OS 8.5's Open and Save dialogue boxes without actually having Power On Software's Action Files utility installed.

However, the new dialogue boxes appear only in programs whose developers have revised them to use the Navigation Services of Mac OS 8.5 and later, so it's going to be a while before they're available in every program.

Meanwhile, if you want to experiment, try saving and opening in Sherlock or setting a desktop picture with the Appearance control panel (see the screenshot "A better dialogue box").

Choose a File Additional Desktop Pi... 💠 **6 1** Name Date Modified M Shamus 8/20/98 Salt Shaker Top 8/20/98 Meon Neon 8/20/98 Faucet Handle 8/20/98 Cancel Choose

### A better dialogue box

Open, Save, and other disk-related dialogue boxes get a new look and many new features in Mac OS 8.5 and later – but only in applications that have been specifically revised to use 8.5's Navigation Services.

Carnation Software (www.macdownload.com). And if your Mac model can't be completely shut down under software control, you can add this capability for £99 or less with a Sophisticated Circuits PowerKey Rebound device (Alta Technology, 0171 622 606).

### Undo that change-all

Are you amazed that AppleWorks (aka ClarisWorks) has no undo for its Change All

operation? Use a macro utility, such as CE software's £80 QuicKeys (Computers Unlimited, 0181 358 5857), to create a macro that saves your work and then brings up the Find/Change dialog box when you press the standard AppleWorks keyboard shortcut for Find/Change (%-F). Now you can use the Revert command to undo a Change All. If for some reason you don't want your work saved before finding or changing, choose Find/Change from the Edit menu instead.

### Speed up slow floppies

Although the iMac's popularity may make 3.5-inch floppy disks less ubiquitous, many

Macintosh users still depend on them. But a floppy that you've used repeatedly can slow your system to a grinding halt as you wait for its icon to appear or window to open. The solution can be as simple as rebuilding the floppy's desktop file: hold down \mathbb{H}-option while you insert the disk. The increase in performance can be absolutely staggering

# Make all the moves

If you enjoy playing Eric's Solitaire Sample (by Eric Snider and included on the Mac OS CD) and want to increase your

chances of winning by not missing any moves, simply press the caps lock key and all playable cards will be highlighted.

### **Mount faster over networks**



You can quickly mount a file server or someone's shared folder from your network by

opening an alias of the file server or shared folder on your Mac. This technique avoids the Chooser and Mac OS 8.5's Network Browser, but it always opens the alias's original item in addition to mounting it. But relying on network traffic and the stuff in the file server or shared folder can be painstaking. To mount the file server or shared disk without opening it, select the alias of it on your Mac and choose Show Original from the File menu (%-R) or the alias's contextual menu.

### **Alternate QuarkXPress shortcuts**



The shortcuts for switching tools in QuarkXPress − **%**-tab and %-shift-tab - are also used

for switching applications in Mac OS 8.5 and later. Despite the conflict, you don't have to change the shortcuts for Mac OS's Application Switcher using Mac OS Help, as described in March 1999's Tips. Instead, simply press %-option-tab and ₩-option-shift-tab in QuarkXPress 3.32 and later to switch tools like normal.

# Free .exe file expansion



The latest version of Aladdin Systems' free StuffIt Expander (www.aladdinsys.com) decomp-

resses the most common PC compression formats all on its own. With StuffIt Expander 5.1, you no longer need Aladdin's shareware Expander Enhancer (mentioned in May's 1999's Tips) to expand files whose names end with .exe, .zip, or .gz.

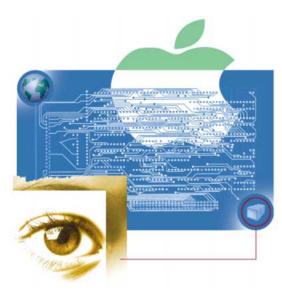
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# Apple must fight strong currents to win the Internet broadcasting race

# Stream-a-delica



or years now, TV and computers have been swimming up different forks of the same stream, headed for the same destination from various directions. Television has struggled to become more interactive. The computer industry, on the other hand, has laboured to engage, fascinate, and enthral computer users.

Both are headed toward an enriched form of interactive media that offers people choice and control without giving up quality and timeliness. Until now, you couldn't have it all. But thanks to ever-burgeoning bandwidths brought to you by technologies like cable modems (thanks, television industry) and DSL (thanks, computer industry), it's becoming possible to shove massive amounts of video into households in real time.

# Up a creek

Thanks to media-compression and -streaming technologies like Microsoft's Windows Media Technology and RealNetworks' RealMedia, the quality of Internet video keeps getting better. It's possible now to watch an entire channel's worth of programming live, with no waiting for files to download – albeit in a small window and with a few annoying skips and pauses. But even this low-fidelity experience has proven good enough to spark an explosion in Internet streaming. And the quality of audio-only streaming is so good that Internet radio could develop audiences larger than the wireless variety in short order.

Into this world Apple brings QuickTime 4, the edition of the venerable media standard that's able to stream media live over the Net. At first glance, the massive amount of QuickTime content already on the Net and that content's high quality would make it a fait accompli for QuickTime 4 to displace Windows Media and RealMedia and reign as the King of All Streaming Media. But Apple will find overtaking these two popular formats a challenge.

When it comes to video from the archives, QuickTime has the advantage. Roughly 50 per cent of all video stored on the Net is in QuickTime format. And QuickTime already serves as an intermediate step between the source material and other Internet streaming technologies. According to Apple, 90 per cent of the content served up by RealVideo servers was previously in QuickTime format.

However, when it comes to broadcasting live video and audio, the advantage goes to RealNetworks and Microsoft. What counts here is the number of Web sites that have already based their Net broadcasting technology on those two companies' formats. Being so late to the market with robust streaming support, Apple has to swim hard and fast against a very strong current to catch up with RealNetworks and Microsoft. After all, setting up a streaming Web server is a difficult task, and the Web sites that have already invested significantly in one particular format are unlikely to get rid of it any time soon. From their standpoint, if the technology they're currently using isn't broken, why fix it?

# **Spawning grounds**

Luckily for Apple, there are still opportunities here. Because the bandwidth to support even a moderately satisfactory streaming experience is still limited to businesses and the households lucky enough to have high-speed access, video streaming is still a relative rarity. The trick for Apple won't be to go after the pioneering sites that have already cast their lot with a particular standard.

What Apple can do is ride the big wave that follows the first brave adopters of new technologies. It must connect with the vast number of sites that would like to offer streaming but have steered clear of it because of cost, logistics, and a seeming lack of demand. To reach them, Apple must make serving live video inexpensive and easy. The Mac OS X Server-based QuickTime Streaming Server is a step in the right direction, but the company also needs to let other companies use Apple's software and hardware package to roll out and support those systems throughout the world. There are thousands of site owners out there who would jump at the chance to offer live video and audio streaming if it could be set up and made to work without a huge output of time or money.

It's true that Apple is late to offer streaming as a part of QuickTime, and that the two formats already on the market have made a lot of headway. But while the current is strong, this stream is also wide – and with a little aggressive marketing, QuickTime's superior technology could still win the race.

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# Peter Worlock



Advancing microprocessor technology is threatening PCs.

# PC's beat goes on

ust recently, it seems to me, there are a lot of people talking about the "end of the personal computer". It appears that "everybody knows" the personal computer is doomed. The engines cannae take it, captain. It'll be computing – but not as we know it, Jim. Even IBM's PC boss Lou Gerstner publicly said so, although there's more than a suspicion that when people like Gerstner say, "The PC is dead" what they mean is, "We can't make money from the PC".

Superficially, there's a fair bit of evidence for the doom of the personal computer (I'm writing that out in full to avoid any confusion about PCs in the Wintel sense: most of this discussion is applicable to Macs, as we'll see).

# The chips are down

Computers are everywhere: in your video recorder and your microwave oven, your car and your mobile phone, and in many of your kids' toys. More obviously, the computer can be found in those devices that are explicitly computer-like: from the mobile phone with a built-in screen for displaying email and faxes, to handheld organizers like 3Com's Palm systems.

Another recent trend is the notion of the Internet everywhere. To that end we've seen Internet-enabled telephones and even Internet-enabled refrigerators and ovens

Even if you take a sceptical view of these things, there can be little doubt about the ubiquity of the microprocessor. But it's one thing to recognize that computer chips will find their way into more and more devices outside the traditional computer, another thing entirely to predict the demise of the personal computer on that basis.

Personally, I do take the sceptical view about these things. I've never been able to get along with personal organizers, despite intense efforts to employ a Psion to good effect, and, based on that dismal failure – more mine than the hardware's, I'm convinced – I was never remotely tempted by Apple's Newton. And I've had a seriously under-used mobile phone for years, provoking some sniggering in the Worlock household recently, when it became apparent that I was incurring greater costs in having my bill itemized than in making calls.

But, of course, I recognize that many people cannot live without their mobile phones, cannot function without a digital personal assistant, and generally would welcome with outstretched chequebook the prospect of computerized, wireless-communicating wristwatches, keyrings, corkscrews, and every other dumb-intelligent gadget ever to grace a James Bond movie. Good luck to you.

In the meantime, almost everything I want to do with a microprocessor requires certain other attributes – notably a large screen and a keyboard. And this is where it gets interesting for Apple and Macintosh users. The latter, as we know, traditionally have fallen into the creative computing category: publishers, graphic artists, print designers, multimedia developers and, most recently, Web publishers. Now it may be a failure of imagination on my part but I don't see how those things can be done by a device that looks radically different from today's personal computer – I don't want to have to scroll up and down and side to side just to look at an image bigger than a postcard.

## **Death of creativity**

Sure, you can imagine voice-control, different kinds of displays, 3D holographic input and output and any other sci-fi thing, but when you reach the point of instructing your device, "Layout this article, three-column grid, usual typography, conservative colour scheme" then you've imagined not the death of the PC but of human creativity.

The key point is, to hope that Apple does not get lured too far off track by the "End is Nigh" crowd. The success of the Palm approach, the sheer "wow!" factor of systems like Sony's Vaio in its sub-notebook form, and the obvious appeal of smarter, more flexible telephones are all to the good. But Apple already lost a ton of money in the Newton and John Sculley's visions of convergence. With the Mac well on the road to recovery, it would be nothing less than tragic if that good work was undone in pursuit of another mirage.

By all means, let's have a PowerBook in the sub-notebook size, and if necessary a more Mac-like Palm (whether built by 3Com or by Apple), but let's hope that Apple continues to deliver hardware for "the rest of us".